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Original Articles

THE RELATION OF IODIN TO THE THYROID GLAND.

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PART I. THE RELATION BETWEEN THE PERCENTAGE OF IODIN AND THE PHYSIOLOGIC ACTIVITY OF THE THYROID.

The question of the relation of iodin to the thyroid had been a subject of active discussion for many years, even before the discovery by Baumann (in 1895) that iodin is usually present in this gland; this interest resulted from the fact that iodin had been in constant use in the treatment of goiter since about 1820. In fact, substances containing iodin had been used in the treatment of this condition for many centuries before the discovery of iodin itself. With Baumann's discovery, however, a new era in the physiology of the thyroid began. The view that the function of the thyroid consists, in part at least, in the production of an internal secretion and that this secretion contains iodin, rapidly gained favor.

Apparently the earlier workers in this field had no doubt about the iodin being an essential part of the "active principle" of the thyroid, although Baumann himself pointed out that it is not invariably present in the gland. A little later, when it was found that iodin is frequently absent or present in traces in the thyroids of many animals (especially wild-living carnivora) and that it varies greatly in amount in individuals of the same species and, further, that the amount is easily influenced by the character of the food, doubts as to whether much importance is to be attached to the iodin began to be expressed. The study of the iodin-content of the thyroid in pathologic conditions also failed to yield wholly concordant results. Some went so far as to suggest that the iodin should be considered rather as an accidental constituent, somewhat as the traces of copper usually present in the liver are regarded as accidental. Without going farther into this phase of the subject, it must be admitted that such studies (they may be called statistical studies) have revealed many facts that it is not possible at present to explain, although a closer study of some of them shows that the contradictions are not as great as appear at first sight.

Much less work has been done on this subject from the experimental side, but that which has been done indicates that there is a relation between the amount of iodin in the thyroid and its physiologic activity. This was the conclusion Roos drew from his studies of the influence of thyroid preparations on nitrogenous metabolism and in myxedema. Oswald considered the iodin essential to any physiologic activity; iodin-free thyreoglobulin was, according to him, entirely inactive. Oswald also stated that thyreoglobulin containing a larger amount of iodin seemed to be more active than that containing a smaller amount. So far as I am aware these are the only writers who have suggested that there is a relation between the degree of physiologic activity and the amount of iodin present in the normal gland and their observations were very few in number; in fact, as Magnus-Levy pointed out, the view that iodothyreoglobulin is the active principle of the thyroid rests on one metabolism experiment by Oswald, the treatment of two cases of myxedema by Magnus-Levy and a few pharmacologic experiments by Oswald and von Cyon.

The reason for the small number of experiments on this subject is not far to seek; it is the lack of satisfactory methods for comparing the relative physiologic activity of different thyroid preparations. Four methods have hitherto been employed for this purpose: 1, their administration to thyreodectomized animals; 2, their effects on patients with myxedema; 3, metabolism experiments; 4, their effects on the circulation. The first method gave very unsatisfactory results; it was chiefly used before the effects of the removal of the parathyroids had received much attention, and it is probable that in many instances the experimenters were endeavoring to control symptoms which had little or nothing to do with the thyroid. The second and third methods are probably satisfactory, but patients with myxedema are not always available and metabolism experiments, to be of value, require much labor and time; it is, moreover, doubtful if either method would admit of the discovery of fine gradations of physiologic activity. The fourth method has been employed chiefly by von Cyon and Oswald; whether it is capable of satisfactory quantitative tests has not been determined, but it seems doubtful if this is the case.

The need of some method for rapidly comparing the physiologic activity of different thyroid preparations is obvious. Such questions as the following constantly arise: Does iodothyrin possess the full activity of the thyroid? Some claim that it does not, whereas others claim that it is more efficient than a corresponding amount of thyroid. Another question is, Is there a direct relation between physiologic activity and iodin-content? If this is the case, then the dosage of thyroid should be determined by the percentage of iodin present, for, as is well known, the iodin-content of the thyroids of the same species of animals may vary greatly; it would also enable pharmacopeias to fix definite standards for the thyroid preparations. The question whether iodin-free thyroid is devoid of all physiologic activity is also of much interest from the standpoints of both physiology and pathology.

I think I have found a method by which some of these questions may be answered quickly and satisfactorily:

it consists in testing the effects of the feeding of various thyroid preparations on the susceptibility of animals to certain poisons. This method admits of much finer quantitative tests than any of those described above. The question may be raised if the results obtained in this way are a true index of the therapeutic efficiency of the thyroid tested; for reasons which will be given later I believe this to be the case.

EXPERIMENTS WITH THYROID PREPARATIONS.

The drugs with which I have chiefly experimented are acetonitrile and morphin. I have recently shown that the former is an exceedingly delicate test for thyroid;* it will be shown here that excellent quantitative tests may be made with it. Morphin is also a good test for thyroid, although it does not give as concordant or as finely graded results as acetonitrile. The method of using these tests is very simple: the thyroid preparations to be tested are fed to animals (mice, rats or guinea-pigs) for a few days and then the resistance of the animals to acetonitrile or morphin determined. The resistance of mice (both white and gray) to acetonitrile is greatly increased by the feeding of thyroid; that of rats and guinea-pigs is diminished. (I have been unable to determine fully the cause of this difference in these classes of animals.) The resistance of all three classes of animals to morphin is diminished by thyroid; the rat is the most sensitive, a milligram of the dried thyroid fed daily for a few days sufficing to cause the rat to succumb to one-tenth of the ordinarily fatal dose. It should be added that the thyroid was fed in such small amounts that no visible effects (not even a loss of weight as a rule) were produced.

Does Iodin-free Thyroid Possess Physiologic Activity?—This question has hitherto been answered in the negative; the acetonitrile test shows that such thyroid possesses a low degree of activity. The material used in my experiments was obtained from infants and newborn Maltese kids; it contained no iodin.[1] As an illustration of the degree of protection against acetonitrile afforded by children's thyroids the following experiments may be quoted: A mouse weighing 15.69 gm. which had received 0.05 gm. children's thyroid daily for eleven days recovered from 31.38 mg. acetonitrile (= 2 mg. pro gm. mouse); a control weighing 17.58 gm., which had received the same food but without the thyroid, died from 3.52 mg. acetonitrile (= 0.2 mg. pro gm. mouse). Thus the children's thyroid had protected the mouse against at least ten times the fatal dose of acetonitrile.

Very much smaller amounts of children's thyroid afforded some protection.

Does the Percentage of Iodin Contained in the Thyroid Have an Influence on Its Physiologic Activity?—For these experiments the following preparations were available:

	Per cent. of iodin.
Children's thyroids	None
Maltese kid thyroids	None
Human (goiter)	0.04
Guinea-pig	0.05
Dog	0.061
Cat thyroids	0.08
Sheep thyroids	0.176
Beef thyroids[2]	0.25
Hog thyroids[2]	0.33

A large number of experiments were made with these preparations; in some cases acetonitrile, in others morphin, was used to detect changes in susceptibility. In some experiments the same amount of different preparations were fed and the degree of change in susceptibility noted; in others varying amounts of the thyroid were fed. The results with acetonitrile were especially sharp, but only a few of the experiments (in abstract) can be quoted here.

SERIES I.

Mice were fed on the following thyroid preparations for 7 to 10 days, and the minimal fatal dose of acetonitrile determined.
Controls died from 0.33 mg. acetonitrile per gm. mouse.
With children's thyroids (0.02 gm.), mice died from 0.55 mg. acetonitrile per gm. mouse.
With guinea-pig thyroids[2] (0.0035 gm.), mice died from 0.9 mg. acetronitile per gm. mouse.

SERIES II.

Controls	Recovered	from 0.45	mg. per gm.
	Died	from 0.52	mg. per gm.
Dog thyroids (0.001 gm.)	Died	from 0.8	mg. per gm.
Sheep thyroids (0.001 gm.)	Recovered	from 1.4	mg. per gm.
	Died	from 1.9	mg. per gm.
Hog thyroids (0.001 gm.)	Recovered	from 2.7	mg. per gm.
	Died	from 3.0	mg. per gm.

SERIES III.

Controls	Recovered	from 0.38	mg. per gm.
	Died	from 0.41	mg. per gm.
Children's thyroids (0.001 gm.)	Died	from 0.7	mg. per gm.
Guinea-pig's thyroids (0.001 gm.)	Recovered	from 0.65	mg. per gm.
	Died	from 0.75	mg. per gm.
Dog thyroids (0.001 gm.)	Recovered	from 0.73	mg. per gm.
	Died	from 0.9	mg. per gm.
Sheep thyroids (0.001 gm.)	Recovered	from 1.7	mg. per gm.
	Died	from 2.1	m. per gm.
Hog thyroids (0.001 gm.)	Recovered	from 3.00	mg. per gm.

These experiments show that with an increase in the percentage of iodin there is an increase in the degree of protection against acetonitrile and that there is an approximate parallelism between the amount of iodin and the degree of protection. In the following series different amounts of the thyroid were fed, but the absolute amount of iodin was very nearly the same in all; the results show that the degree of protection was nearly equal in all cases.

	Per cent. of iodin.	Relative per cent. of iodin (G—p=1).	Amt. of thyroid fed (daily).	Mice recovered from acetonitrile.
Guinea-pig	0.05	1	0.0035	3.1 mg.
Cat	0.08	1.6	0.002	3.1 mg.
Sheep	0.176	3.3	0.001	3.1 mg.
Beef	0.25	5.0	0.00075	2.7 mg.
Hog	0.33	6.6	0.0005	2.8 mg.

The above experiments show that the physiologic activity of different thyroids, as tested by acetonitrile, varies directly with the percentage of iodin. Other experiments showed that the iodin-free children's thyroid has about one-tenth the activity of the guinea-pig thyroid (containing 0.05 per cent. iodin).

Experiments with Morphin.—Results similar to the above, although not, as a rule, so sharp, were obtained from morphin. The following is an abstract of one of these series of experiments; it was made on white rats:

Controls	Recovered	from 0.4	mg. per gm.
	Died	from 0.42	mg. per gm.
Sheep thyroids (0.176% iodin)	Recovered	from 0.07	mg. per gm.
Hog thyroids (0.33% iodin)	Recovered	from 0.025	mg. per gm.
	Died	from 0.04	mg. per gm.

This series affords a striking illustration of how greatly the susceptibility of an animal to a poison may be increased by the feeding of thyroid; rats which had received but 1 milligram thyroid for a few days died from less than one-tenth the dose of morphin necessary to kill the controls. I have not been able to determine the cause of this increased susceptibility; possibly the thyroid, which is known to hasten the oxidation of fats, affects the lipoids of the nervous system in such a manner that poisons, such as morphin, gain access to it more easily. It has long been recognized that such anesthetics as ether and chloroform, which are readily taken up by the lipoids of the nervous system, are very danger-

* THE JOURNAL A. M. A., July 20, 1907, p. 240.

1. I am under great obligations to Dr. Atherton Seidell of the Hygienic Laboratory for most of the iodin determinations referred to in this paper.

2. I am much indebted to Armour & Co. for these and a number of other organ preparations.

ous in cases of exophthalmic goiter; clinicians are not in accord as regards the use of morphin in exophthalmic goiter, some advising against it, while a few think it indicated. My experiments suggest that morphin is contraindicated in this condition, although, of course, man may react differently in this respect from the lower animals. It can scarcely be objected that the doses of thyroid in my experiments were excessive, for they were so small that, as a rule, there were but insignificant losses of weight, whereas in exophthalmic goiter there is usually a very great loss of weight; moreover, it has not been possible to detect thyroid in the blood of the animals to which thyroid had been administered by the mouth, whereas it has been almost certainly shown that the blood in exophthalmic goiter does contain thyroid.

Effect of Various Iodin Compounds on Poisoning by Acetonitrile.—It is possible to give but the briefest outline of these experiments here. The feeding of potassium iodid to mice protects them to a slight extent against acetonitrile; in no case did such mice survive more than twice the dose of acetonitrile fatal to the controls. I believe this effect to be due to an influence exerted on the thyroid by the potassium iodid. Many other iodin compounds have a similar action, but there are great variations in the amount necessary to produce a given effect; this will be discussed in the second part of this paper.

Effect of Certain Organ Products on Poisoning by Acetonitrile and Morphin.—As is well known, the thyroid is, or has been, supposed to have close physiologic relations with a large number of other organs. Hence it seemed of interest to study the effects of feeding some of these on the susceptibility of animals to morphin and acetonitrile. Most of the results were entirely negative and need not be discussed here. The negative results with the parathyroids, however, present some points of interest. The feeding of large amounts of these glands to mice failed to cause the least increase in the animals' resistance to acetonitrile. This result is of interest in view of the supposition sometimes expressed that the parathyroids have practically the same function as the thyroids. Another view concerning the parathyroids, based, apparently, on histologic grounds, is that they represent rudimentary thyroid tissue; if this is the case the tissue must be in a more rudimentary condition than that of the thyroid of infants, for the latter, as was shown above, contains a substance which protects against acetonitrile.

There have long been clear indications (some of them were observed by the Romans) that the thyroid has special relations with some of the organs connected with reproduction. Hence it is a matter of considerable interest to find that certain of these organs contain a substance acting, feebly it is true, like thyroid in its relation to poisoning by both morphin and acetonitrile.[3] The ovaries, testicles, mammary and prostate glands, when fed to mice, increased their resistance to acetonitrile; in some cases mice fed on these substances recovered from more than three times the dose sufficient to kill the controls. The feeding of prostate to guinea-pigs diminished the animals' resistance to acetonitrile. Prostate also diminished the resistance of mice to morphin. Thus in all of the above reactions the effect of prostate and (as far as they were tested) of the other organs connected with the reproduction was the same, but much weaker, than that of the thyroid.

3. My results with ovarian substances may have some very indirect bearings on the therapeutic use of this substance. Some have maintained that the "active principle" (?) of the ovary is probably destroyed by the digestive juices; my experiments show that a substance having a special physiologic activity is readily absorbed from the alimentary tract. It is also claimed that the ovaries form different internal secretions depending on pregnancy, heat (in animals), etc., and that this fact should not be neglected in selecting ovaries for medical use. I have found some ovarian preparations to have no effect on poisoning by acetonitrile, and corpus luteum gave entirely negative results. These results show that there are differences in the various preparations, but these may have no connection with the normal functions of the ovaries.

GENERAL CONSIDERATIONS, (A) PHYSIOLOGIC.

It has been shown in the above experiments that iodin-free thyroid has a certain degree of physiologic activity, but that this activity is greatly increased by the presence of iodin (in proper combination); from the data obtained it would appear that sheep thyroid (containing 0.176 per cent. iodin) was approximately thirty times as active as iodin-free children's thyroid. It was also shown that there is a close parallelism between the amount of iodin and the degree of physiologic activity. Two suppositions may be made as to the varying amounts of iodin in different thyroids: 1, that there is a compound containing a definite amount of iodin and that this compound is present in much larger amounts in some thyroids than in others; 2, that some substance present in the thyroid is capable of combining with different amounts of iodin, as is the case with many fats. This subject has been discussed by Oswald in regard to iodothyreoglobulin. Although a final answer can not, perhaps, be given at present, the weight of evidence is decidedly in favor of the second view, although it is not probable that all of the thyreoglobulin in a thyroid is equally iodized. It is interesting to recall in this connection instances in which the properties of substances vary with the number of certain groups contained in them. Thus Bechhold and Ehrlich found the antiseptic power of substituted phenols to be increased according to the number of bromin and chlorin atoms present in them. Certain substances, themselves but very faintly colored, are converted into powerful dyes by the introduction of certain groups (auxochrome groups), which of themselves make up but little of the total molecular weight, the depth of color being dependent on the number of such groups introduced.

Another point brought out in the above experiments is that organs other than the thyroid have a physiologic action similar (at least in some respects) to that of the thyroid; this is the case especially with the ovaries, testicles, mammary glands and prostate. The effect of prostate, for example, is comparable to that of iodin-free thyroid; the latter does not seem to be more than three or four times as active as the former. There is a far greater difference between the activity of thyroid containing only a very small amount of iodin and the iodin-free thyroid than between the latter and the prostate.

There are a few facts known which indicate that at least the ovaries and testicles have physiologic actions similar to, in some respects, but much weaker than, the thyroid. Thus it has been known for some time that the thyroid has special relations to fat metabolism; in cases of hypothyroidism there is usually obesity, in hyperthyroidism leanness or emaciation. Castration has long been known to favor obesity in the male; Gloevecke observed a similar tendency in one-third of the cases of castration in women.

The above considerations suggest that there is distributed in several organs of the body a substance or substances having a common physiologic action and

that the one occurring in the thyroid has in addition certain chemical groups by which it is enabled to take up iodin whereby its physiologic activity is greatly increased; perhaps the rôle of the iodin may be compared to that of a complement or to the effect of the substance in the pancreas which so greatly increases the glycolytic power of muscle.

Relations analogous to those suggested above have already been described as obtaining between various organs in certain immunity and other reactions. Thus mice may be immunized against mouse carcinoma by the injection not only of mouse carcinoma, but also of sarcoma, and Schöne has recently shown that a certain degree of immunity may be obtained by the injection of mouse embryos and, to a much less extent, by that of certain organs; Bashford, Murray and Cramer found that immunity or a "refractory period" resulted from the injection of normal mouse blood. These results indicate that material capable of producing immunity occurs not only in tumors, but in normal organs, although it is not certain that the immunity is the same in the two cases.

The work of Hildebrandt and of Lane-Claypon and Starling show that during pregnancy there passes from the embryo to the mother substances which produce growth of the mammary gland. But the fetus, although the chief source of substances of this character, is not the only one; the growth of the mammary gland at puberty, for example, is probably due to ovarian influence. Other organs may have an action (though probably not an important one) similar to that of the pancreas in carbohydrate metabolism; thus extirpation of the thyroid and of the salivary glands may cause glycosuria. Similarly, various tissues seem to contain substances in common which cause the formation of polytoxic antibodies.

The above results suggest that thyroid preparations may be standardized and the dose fixed by the amount of iodin in organic combination.

The earlier discussion as to the relative value of thyroid tablets of different source may have resulted from these having different amounts of iodin, as Kocher pointed out.

B. PATHOLOGIC CONSIDERATIONS.

The above conception that iodin-free thyroid contains a substance having a low degree of physiologic activity and that this substance is capable of taking up iodin in the body and becoming far more active physiologically seems capable of throwing some light on certain pathologic conditions. Thus it seems possible that a thyroid may be ineffective either by producing too little of the normal iodothyreoglobulin or by producing a thyreoglobulin too poor in iodin.[4] It also seems possible that the thyroid may meet increased demands in various ways: by an increase in the per cent. of iodin, by an increase in the iodin-free constituents or, most advantageously, by an increase in both. In addition it may be supposed that in some conditions there is a more rapid circulation of iodin. An examination of the literature suggests that these various changes do occur.

Hypertrophy of the Thyroid.—Halsted found that when part of the thyroid was removed from pregnant bitches the puppies were born with thyroids as many as twenty times as large as the normal. These results were confirmed by Edmunds, and I have found the thyroids of guinea-pigs born of thyroidectomized mothers to be three times as large as those of the controls. Halsted found no colloid in the thyroids of the puppies with the hypertrophied glands and only rarely was there a trace of a vesicle, i. e., the histological appearance was that which has been described by Oswald as characteristic of certain iodin-free thyroids. Moreover, as was pointed out above, the thyroids of new-born animals do not contain iodin; Nagel and Roos showed this to be the case with puppies where one-half of the thyroid had been removed from the mother early in pregnancy. It seems reasonable to suppose that in this case the puppies did not receive sufficient thyroid secretion from the mother and that they had responded with a hypertrophy of their own glands; iodin not being available, the hypertrophy consisted in an increase in the iodin-free substance.

Halsted found that when part of the thyroid was removed the remainder hypertrophied; the hypertrophied part showed the histologic appearance of a gland poor in iodin. Hürthle also found changes which he interpreted as indications of increased activity in the remaining tissue when much of the thyroid had been removed. A. Kocher and Nagel and Roos studied the iodin-content in the thyroid in similar experiments. Nagel and Roos found that when one entire lobe and about one-half of the other was removed the remaining part showed, as a rule, an increased amount of iodin. When but one lobe was removed the other showed no increase in iodin except when pregnancy occurred, when there was, in one case, an increase from 0.5 mg. to 2.5 mg. of iodin per gm. dry gland. Nagel and Roos had given their dogs large doses of sodium iodid some days before the first operation; so that there was probably a maximum amount of iodin present. Kocher, who apparently gave no iodid, found that when one lobe was removed the remaining one showed nearly double the amount of iodin found in the first one. Dr. Seidell and I have obtained similar results with cats. Although other factors may be involved here, it seems reasonable to suppose that the hypertrophy observed by Halsted represented a stage where the gland contained little iodin; later, as it was able to accumulate iodin, this form of hypertrophy passed away and there resulted a gland much richer in iodin. The differences in the results obtained by Kocher and by Nagel and Roos when but one lobe was removed are to be explained by the fact that the latter had given sodium iodid before the operation so that the thyroid already had a large supply of iodin.[5] Perhaps the changes in the thyroid (enlargement or indications of increased activity) described by Watson as resulting from an exclusive meat diet are to be similarly explained, for it is known that a meat diet leads to a diminution or loss of the iodin of the thyroid. This point of view is at least a working hypothesis; further evidence either for or against it can probably be obtained by simultaneous histologic and chemical studies, which have not yet been made.

Goiter.—Conditions similar to the above seem to obtain in certain forms of goiter, although here the relations are extremely complex. Beginning with the sim-

4. Since this part of the present paper was written, Marine (Jour. of Infect. Diseases, iv, 416, 1907) has expressed a very similar view. He considers the "glandular hyperplasia," which is so common in the thyroid of dogs in certain regions, to be "a physiologic reaction to a deficiency," and, from the effects of feeding iodin to a dog with such a thyroid, that this is probably a deficiency of iodin. The general conception that "goiters" are due to a deficiency of iodin and also that some forms of "goiter" are due to hypertrophy are old, but Marine has given the conception more definite form.

5. I think that I have obtained some evidence that the administration of potassium iodid prevents or delays hypertrophy of the remaining lobe when one has been removed.

plest cases, however, there is, in the first place, much evidence that there is, in general, an inverse relation between the size of the thyroid (and the amount of thyreoglobulin) and the amount of iodin present in it; this suggests that the thyroid is large because it is, on account of the low iodin content, relatively inefficient (Cf. Marine).

Some of the most striking illustrations of this relation are seen in animals. Thus Oswald found a large number (about 100) of goitrous calf thyroids from Zürich to weigh (fresh) from 60 to 300 gm. and to contain no iodin; the thyroids of calves from Paris were found to weigh from 15 to 20 gm. and the thyreoglobulin prepared from them contained 0.56 per cent. iodin. He also found glands weighing about 50 gm. (fresh) to contain only traces of iodin or at most 0.8 mg.; glands weighing about 10 gm. (fresh) contained from 4.3 to 7.7 mg. iodin.

Baumann found in 12 cases of goiter (human) the average weight of the dry thyroid to be about 36 gm.; the normal weight is given as 4.6 to 7.4 gm. The large glands contained on an average but 0.09 mg. iodin pro gm.; the normal ones from 0.83 to 0.9 mg. In many cases the total amount of iodin in these large thyroids approximates the normal, although the percentage is markedly reduced. The large size may, nevertheless, be considered to result from an insufficient amount of iodin, for, when the latter is administered, the thyroid rapidly diminishes in size.

That the presence of iodin contributes to the efficiency of the thyroid is also indicated by the fact that iodin of normal glands has been found to be in inverse proportion to the frequency with which goiter occurs. Swelling of thyroid at puberty or in pregnancy and before menstruation is more marked in goitrous regions, i. e., the swelling is most marked where there is least iodin; in non-goitrous regions there is an increase in the amount of iodin at these periods. Both of these may be considered as a response to increased demands on the thyroid.

The marked therapeutic results obtained in certain forms of goiter by the use of iodin or its compounds seem to be partially explicable by supposing that the iodin converts a relatively inactive thyreoglobulin into a much more efficient compound. In addition to this action, however, the iodin probably has an important effect in aiding the secretion of the thyroid, as has been especially emphasized by Oswald.

All writers are agreed that the form of goiter most amenable to iodin is the simple hyperplastic goiter, i. e., the form in which, as was shown above, the thyroid is enlarged but contains very little iodin. This is the form most usually found in endemic goiter and in young individuals and children. It often occurs about the time of puberty and pregnancy (a period at which, in normal individuals, there is usually an increase in the iodin of the gland); it may be regarded as the response to increased demands from the organism. Iodin, in various forms and usually very small amounts, often gives astonishingly good results in these cases. Thus a single small dose (0.2 gm., for example) will sometimes cause a marked diminution of the size of the thyroid. After a few such doses the gland may return to almost the normal size, and afterward an occasional dose of potassium iodid or an application of iodin externally frequently suffices to prevent a recurrence.

It is also worthy of note that the administration of small doses of thyroid in these cases often leads to a prompt diminution in the size of the goiter; this speaks strongly for the view that the large size of the goitrous thyroid is the result of an attempt at hypertrophy.

It has long been recognized that the administration of iodin or of iodin compounds to patients with goiter is not infrequently followed by symptoms of intoxication and that these symptoms are, as a rule, different and generally much more serious than those of simple iodism. Palpitation of the heart, tachycardia, perspiration, wakefulness, excitement, tremors and emaciation (often extreme)—symptoms which are rare in simple iodism—are the rule in the intoxication caused by the administration of iodin to patients with goiter. The resemblance of these symptoms to those of exophthalmic goiter are so great that they are frequently referred to as exophthalmic goiter symptoms.[6]

An observation by His may be noted here; this author stated that he had found the administration of potassium iodid to patients in Basel to be followed by an acceleration of the heart in about 65 per cent. of all cases observed and that he had not observed this elsewhere. His suggested that this might possibly be connected in some way with the fact that parenchymatous goiters are common in this part of Switzerland; the above considerations suggest that the acceleration of the heart resulted from the activation (by the iodin) of iodin-poor thyreoglobulin.

Although the following suggestion is not adequate to explain all these facts concerning hyperplastic goiter, it may be helpful: In this form of goiter there is an accumulation in the cells of the thyroid of an iodin-poor thyreoglobulin, the thyroid having responded to the needs of the body by an increased production of this substance. The large amount of this material is due partly to its low degree of activity (on account of the insufficient iodin), partly to the inability of the gland to secrete it (also owing to its low iodin content). When iodin is administered, relatively inactive thyreoglobulin becomes much more active. It is also secreted more readily and symptoms of thyroidism may develop. There are no indications that in this form of goiter the thyroid has a tendency to form too much secretion; the secretion is simply deficient in activity. With the administration of iodin a more efficient secretion is formed and the crisis passes, for a time at least. In exophthalmic goiter, on the other hand, the thyroid seems to be in a condition of hyperactivity; iodin usually makes the condition worse, probably from rendering the secretion still more active.

PART II. THE ACTION OF IODIN IS IN SOME CASES EXERTED THROUGH THE THYROID.

Introduction.—T. Kocher early recognized the similarity in the action of thyroid and iodin in their effects on certain cases of goiter. As physicians became more familiar with the effects of thyroid feeding they recognized that a number of symptoms which had usually

6. The large number of people who have been seriously, frequently permanently (as was the case with the great botanist de Condolle), sometimes fatally, injured by iodin or its compounds shows that potassium iodid is not a drug which can safely be used for self-medication; yet it is a common constituent of "blood purifiers," catarrh and rheumatism "cures" and other nostrums. The thirty-fourth annual report of the State Board of Health of Massachusetts, p. 497, states that potassium iodid was found in 33 different "sarsaparilla remedies" or "blood purifiers;" some contained over 2 per cent. It should be added, however, that the conditions which have made the excessive use of iodin so disastrous in Switzerland, for example, are far less common in the United States. Kocher considers that in the case of some goiters an operation is often less dangerous than a vigorous iodin treatment.

been referred to as symptoms of "iodism" were probably symptoms of thyroidism. These clinical observations gradually led to the view that some of the physiologic (or more properly toxicologic) actions of iodin are exerted, in some way, through the thyroid gland. Among effects of this kind may be mentioned the tachycardia, palpitation of the heart, muscular tremors, nervousness, sleeplessness, increased metabolism, sometimes leading to great emaciation, etc., which are sometimes noticed after administration of certain iodin compounds. Gynecologists also noticed the similarity between the effects of iodin and thyroid on menstruation; the latter is often rendered more frequent and profuse by both thyroid and potassium iodid and also in the early stages of exophthalmic goiter (hyperthyroidism). Large doses of potassium iodid may cause a cessation of menstruation, as also occurs when the symptoms of exophthalmic goiter become more marked.

Such observations as the above led to the suggestion that some of the other therapeutic effects of the iodids (aside from those obtained in goiter) result from a stimulation of the thyroid. Thus there is frequently arteriosclerosis in myxedema, and it was suggested that other forms of arteriosclerosis may be due to deficient thyroid secretion and that the latter may be stimulated by the iodids. As age advances the thyroid seems to become less active (there is usually, at least, a diminution of the iodin) and it has been suggested that this has some connection with the arteriosclerosis of old age. Similarly the effects of potassium iodid as an antifat (a very uncertain and dangerous drug to be used for this purpose, however) may be partly due to its effect on the thyroid.

The clearest evidence of an action of iodin being exerted indirectly (through the thyroid) comes from cases in which the thyroid was evidently abnormal. The clinical observations left the question open whether, with a normal gland and with non-toxic doses of iodids, there are effects which can be attributed to a stimulation of the thyroid; animal experiments similar to those described in the first part of this paper, in which the reaction to certain poisons were studied, showed very clearly that this is the cause. The results with acetonitrile were especially sharp and satisfactory, although perhaps some more practical conclusion could be drawn from a study of some other poisons (especially morphin).

EXPERIMENTS WITH IODIN COMPOUNDS.

a. The Effects of Certain Iodin Compounds Are in Part the Same as Those of Thyroid. Experiments with Acetonitrile.—Many experiments showed that potassium iodid and some other iodin compounds (bladderwrack, iodoform, iodole, etc.) when fed to mice increase their resistance to acetonitrile; thyroid has a similar but far greater effect. This fact would not have much significance were it not that rats and guinea-pigs (if the thyroid gland is intact) react toward these iodin compounds in exactly the opposite way, but still just as they do toward thyroid; in other words, the resistance of rats and guinea-pigs toward acetonitrile is lowered, or at least never increased, by feeding thyroid and certain iodin compounds.

In some experiments the administration of iodin compounds had either a very slight or no effect. It is probable that this absence of effect was due to the condition of the thyroid. The point which I desire to emphasize here, however, is that whenever potassium iodid or other iodin compound does have an effect on the resistance of animals to acetonitrile (and this is usually the case) it invariably affects mice and guinea-pigs in exactly opposite directions.

b. Experiments with Morphin.—The feeding of thyroid lowers the resistance of mice, rats and guinea-pigs to morphin; the feeding of potassium iodid and bladderwrack have a similar though less marked effect; here again the iodin compounds affected the resistance of animals to this poison the same way that thyroid did.

Influence of the Removal of the Thyroid on the Physiologic Action of Iodin Compounds.—These experiments were performed on guinea-pigs. Previous writers have reported only negative results from the removal of the thyroid (and parathyroids) in these animals; I have found about one animal in ten to develop tetany. In some cases the tetany was of but very brief duration and would have been overlooked had not the animals been under close observation; in a few cases death resulted.

For testing the effect of the removal of the thyroid on the action of iodin compounds the following groups of guinea-pigs were used; there were four or more animals in each group: 1, Normal; 2, normal animals to which the iodin compound had been administered for a few days; 3, thyroidectomized animals to which the iodin compound had been given; 4, thyroidectomized animals which had received no iodin. Abstracts of two typical experiments are given:

POTASSIUM IODID.

	Acetonitrile.	
1. Controls	Recovered..	from 0.36 mg. per gm.
	Died.....	from 0.38 mg. per gm.
2. Thyroid intact; pot. iod. (1.5 gm. per kilo).	Recovered..	from 0.26 mg. per gm.
	Died.....	from 0.28 mg. per gm.
3. Thyroid removed; pot. iod. (1.5 gm. per kilo.).	Recovered..	from 0.36 mg. per gm.
4. Thyroid removed	Recovered..	from 0.32 mg. per gm.
	Died.....	from 0.34 mg. per gm.

SAJODIN.[7]

1. Controls	Recovered..	from 0.35 mg. per gm.
	Died.....	from 0.38 mg. per gm.
2. Thyroid intact; sajodin 0.5 gm. per kilo.	Recovered..	from 0.2 mg. per gm.
	Died.....	from 0.23 mg. per gm.
3. Thyroid removed; sajodin 0.5 gm. per kilo.	Recovered..	from 0.33 mg. per gm.
4. Thyroid removed	Recovered..	from 0.4 mg. per gm.

These experiments (and they are but types of many) show that removal of the thyroid prevents or greatly diminishes a definite effect produced by certain iodin compounds; it is reasonable to suppose that the iodin has produced these effects by an action on the thyroid. The explanation I propose for this is as follows: The iodin compounds convert the available iodin-poor thyreoglobulin into an iodin-rich compound, with the result that the animal is in a condition of hyperthyroidism; it was shown above that when such a condition of hyperthyroidism is produced by the feeding of thyroid the animals show the same increased susceptibility to acetonitrile.

It is impossible to increase the susceptibility by the administration of iodin compounds beyond a certain point, and this is less than that which may be produced by thyroid feeding; this difference probably depends on the fact that the thyroid has at any one time but a limited supply of iodin-poor thyreoglobulin; when this is iodized to its maximum there can be no further increase in susceptibility. Of course it is possible that another factor is involved: that the effect of the iodin is simply to cause an increased secretion of the active

7. See New and Non-Official Remedies, Amer. Med. Assn., p. 91, 2d ed., 1907.

principle already present, but on the whole the former suggestion seems more probable.

The above experiments suggest an experimental method of determining whether a given iodin compound has a special selective action on the thyroid; as Kocher has pointed out, such a compound is a great desideratum in the treatment of goiter. We have found that iodin in some combinations (aside from the thyroid) is far more effective in producing the changes described above than in others; in one case it was nearly a hundred times more active, i. e., a milligram produced as much effect as a hundred milligrams of potassium iodid.[8]

GENERAL CONSIDERATIONS.

The above experiments, affording as they do additional evidence that some of the physiologic effects of iodin are exerted through natural agencies of the body, have a bearing on one of the most promising fields in pharmacology—the conscious utilization, or modification for therapeutic purposes, of "hormones," those "chemical messengers," as Starling calls them, by which many of the chemical processes in the body are regulated. Perhaps no field in experimental physiology is yielding more interesting or important results than the study of these hormones; the results obtained so far in pharmacology are equally encouraging. Thus no other drug approaches, in its effects on metabolism, the hormone contained in the thyroid gland; perhaps the drugs having an action most like, though vastly weaker than, the thyroid are certain almost discarded drugs such as poke root and probably guaiac and senega—drugs once used for their "alterative" action. The discovery of another hormone, adrenalin, not only gave the most powerful vasoconstrictor known, but has given chemists a clue which has already led to the synthesis of very powerful drugs and which holds out hopes of other drugs superior to adrenalin itself. Other substances with phenomenal physiologic activity are being found in the body or are being derived from substance occurring in the body; whether some of these should be classed as hormones is doubtful, but their chemical structure is such that they have a special affinity for certain organs. Thus Schäfer and Herring find that the hypophysis contains a substance more powerfully diuretic than any drug known at present (and it is interesting to remember in this connection that some of the most valuable diuretics already known—theobromin, caffein, etc.—belong to a group of bodies—the purins—which are widely distributed in the body). The introduction of an acetyl group into cholin (a substance occurring, in combination, in almost all, if not all, living cells) led to the discovery of the most powerful vascular depressant known, a substance a hundred times more active (but in a different way) than adrenalin.[9] These and other similar substances are not available at present for therapeutic purposes, but there are many reasons for supposing that further study will make them so.

Pharmacologists are also suspecting that some of the effects of well-known drugs are due to their influence on certain hormones, just as iodin has a special effect on the thyroid hormones. Thus it has been suggested that the chief effect of the hydrochloric acid which has so long been administered in certain forms of indigestion is on the mucous membrane of the duodenum, by which pancreatic secretin (the normal and by far the most powerful stimulus known for the pancreas) is formed and not on the gastric digestion.

Attempts have been made, but with very doubtful success, to stimulate the pancreas in diabetes mellitus by the oral administration of secretin.

Although this line of work is full of promise, there will inevitably be great difficulties and many disappointments. Its development in the future will doubtless rest, as it has in the past, on the joint labors of the laboratory worker and the clinician.[10] In this connection may be quoted the words of Mangus-Levy, an eminent clinician who has contributed much to this field; speaking of the prospects of organotherapy in diabetes he says: Success is "not to be expected from crude empirical experiments on sick men, but only from a systematic investigation of the physiologic sugar metabolism in all its details." A serious handicap to the healthy development of work of this character is the fact that a certain class of manufacturers seize on everything which is even suggestive of an advance in physiology as an excuse for exploiting products of the most questionable value. In fact, much of the pseudo-scientific matter on organotherapy which fills so many advertising circulars and the advertising pages of certain medical journals is based on about as much science as is possessed by the savage who hopes to increase his prowess by eating the heart of his enemy. This condition of affairs will change only when the medical profession gives fuller recognition to pharmacology in the medical schools.

8. Possibly the methods described in this paper will yield results of value in connection with some of the new iodin compounds which are being put on the market in such numbers. Chemists and pharmacists seem to have almost acquired a habit of dubbing and exploiting almost any organic iodin compound as "potassium iodid" or "iodoform substitute," with little regard to its physiologic action, and sometimes, as the investigations of the Council on Pharmacy and Chemistry have shown, with ignorance of even the approximate composition of the substance whose therapeutic virtues they so loudly extol.

9. Hunt and Taveau: Brit. Med. Jour., 1906, ii, 1788. One c.c. of a solution containing but 1 mg. of acetyl-cholin in 200 liters of saline causes a very distinct effect on the blood pressure of a large rabbit.

10. In the discoveries of this nature which have so far proved of permanent value, laboratory has preceded clinical work. Thus the wonderful properties of the suprarenals were not suspected until physiologists had studied the effects of suprarenal extract on the blood pressure of animals. The broad facts of the physiology of the thyroid were discovered by a physiologist, but were neglected until rediscovered many years later by surgeons at a terrible sacrifice of human life. There is a class of manufacturers and a few physicians who are constantly endeavoring to belittle the results of laboratory experiments in pharmacology and to arouse the prejudices of physicians against them. The experience of the Council on Pharmacy and Chemistry has been that most such criticisms come from those interested in the exploitation of things which will not bear too close scrutiny.

CONSTITUTIONAL ILL-EQUIPMENT OF THE PATIENT AS A FACTOR IN DETERMINING THE PERFORMANCE OF THE PRIMARY CESAREAN SECTION.*

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The choice between hard high forceps or version, on the one hand, and the Cesarean section, on the other, is curiously ill-stated in the current literature of the day, and to one familiar with the literature only, the positions taken by different authors, and even by the same authors when writing on different points, would seem at times to be flatly contradictory. Thus, the common sense of the greater number of leading obstetricians has led them to take repeatedly and distinctly the position that Cesa-

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rean section as an operation of choice is preferable to hard high forceps or version; yet few Anglo-Saxon obstetricians would condemn the mother to any considerable increase of mortality for the sake of an improvement in the chances for the child, while every one admits that though hard intrapelvic operating has a maternal mortality, it has a very small mortality; and, on the other hand, the mortality of the Cesarean section is commonly spoken of as from 4 per cent. to 6 per cent. These contradictory attitudes are, of course, more apparent than real, and rest, in fact, on a failure to state in words the great difference in the mortalities of the Cesarean section under differing circumstances. To put this difference clearly in words is the first point in the argument of this paper.

In a recent article on a cognate subject I have attempted to show, both by quoting my own experience and from the results of statistical inquiry, four cardinal points in this matter, viz.: (a) Cesarean section, after the expulsive efforts have failed to drive the head through the brim, has a high mortality; (b) Cesarean section, after a moderately full test in labor, but before the advent of the signs of exhaustion, has a considerable mortality; (c) Cesarean section before labor has an exceedingly low mortality; (d) the mortality of the section in general is proportionate to the amount of labor that has been endured before its performance.

It seems unnecessary to repeat that argument in full here, but for the sake of clearness, the statistical conclusions then presented must be summarized at this point in the present argument. A search of the recent literature of the world, conducted by a professional librarian, yielded 289 patients operated on in the last ten years for the mechanical indication only by operators who had at least five sections to their credit, and in which the original case reports were presented in sufficient detail to permit of their tabular analysis. These patients were divided into three test classes: 1, those operated on after the natural expulsive efforts had failed to effect the passage of the brim, and when a varying degree of exhaustion was consequently present; 2, those operated on early in labor, before the advent of any apparent exhaustion, but after the pains were well established; 3, those operated on at an elected date before the appearance of labor, or in a few cases so soon as the preparations could be made after the appearance of the first pain.

Of these 289 operations done by twenty different operators in many different countries, 49 belonged to the first class, i. e., were performed after the failure of the expulsive powers, and were classified as "late in labor;" 158 belonged to the second class, called "early in labor," and 82 to the third class, "before labor." The 49 late cases yielded six deaths, a mortality of 12 per cent. The 158 operations performed early in labor also showed six deaths, a mortality of 3.8 per cent. The 82 operations before labor included but one death, a mortality of 1.2, and that single case was the result of a mistake in mechanical technic, aided by the incompetence of an assistant, as is frankly acknowledged by the operator who reported it. In that patient, operated on nearly ten years ago, the uterus was sutured with catgut, a material now generally considered unsuited to the uterine suture of the Cesarean section from its liability to come untied during the alternate contraction and relaxation of the uterus. A few hours later the patient was found in collapse. The operator was at a distance. An assistant who was summoned pronounced it a mere nervous affair unworthy of treatment, and at once left the patient, who died soon after untreated. At the autopsy the uterine sutures were found untied and the abdomen full of blood. This case is spoken of in detail because the operator himself stigmatizes this as an unnecessary death and because if it were omitted the list of primary sections would be clear of fatalities. It must, however, be included in our inquiry, in spite of which the differences between the percentages of mortality in the three classes, 12 per cent., 3.8 per cent., 1.2 per cent., are very striking.

An inquiry into the etiology of these deaths is also important, though perhaps less pertinent to our present purpose. The list of 82 primary sections selected merely as being classical sections, performed by experienced operators and for mechanical indications only, i. e., excluding eclampsia, placenta prævia, etc., yielded one accidental death from a failure in technic. The two other series, i. e., those done "early in labor" and "late in labor," but performed by the same operators, and under the same conditions, yielded 12 deaths, all from peritonitis, or infection in some form, the percentages rising as the length of labor before operation increased. Lack of space forbids any further discussion here of this significant difference in mortality other than to say that with one exception all of these 12 fatal cases had been under the care of the operator from the beginning of labor. That which does seem especially worthy of emphasis here is that so far as the length of this series (289 cases) warrants any definite conclusion, it is that the section in labor has a not inconsiderable mortality (proportionate, however, to the amount of previous labor), while the section before labor seems to have only that danger from technical slips which is incident to all operating *per se*, and which always decreases to approximate insignificance as the operation becomes more and more familiar. This fact in itself appears sufficient for the only conclusion which it is necessary to draw here, and for the purposes of the first point in the present argument, viz., that it is of the first importance to determine for or against the Cesarean section in advance of labor, in as large a proportion of cases as possible.

Though the difference between the mortalities of the section late in labor, early in labor, and before labor, has not as yet been generally set forth in sufficiently plain terms in the literature of the subject, yet the most superficial study of the same literature from the clinical standpoint shows that this difference has been appreciated in practice. The late section has become thoroughly discredited and is now seldom or never performed by operators of experience in cases which have been under their own care from the start, and while the secondary section is still in too high favor, the performance of the primary section has of late years become the prevalent rule all over the world in all cases done for the absolute indication. It is noteworthy, too, that with two exceptions (the Schauta Clinic in Germany and E. P. Davis in America) the operators who have had the largest experience have also the largest percentage of primary operations throughout their series. If, however, the date of election is the safest time for the performance of the section in cases of the absolute indication, it is of necessity also the safest time for the section when done for the relative indication.

It is evident then that the still prevalent and, as I believe, bad practice of performance of the section after a variable amount of labor is founded on a general, but, I think, mistaken belief that the so-called test in labor is our only sure method of determining the question in those cases in which the section is indicated in the ab-

sence of extreme deformities of the pelvis. Though the test in labor is certainly the easiest of all methods of determination of the degree of mechanical adaptation present, its value may well be doubted when considered in connection with its dangers, and it is further the purpose of this paper to argue not only this point, but also that the means of diagnosis placed at our command by recent progress are sufficient to enable us to decide in the great majority of all cases with a fair degree of certainty, for or against that which is the ideal operation in all really difficult cases, the primary Cesarean section.

If the test in labor is persisted in to the point of actual failure of the natural forces its accuracy can not be doubted. Unfortunately the danger of the performance of the section so late in labor as this is also undoubted. On the other hand, in a recent discussion on this subject it was stated by Edgar that while the mortality of the section must be admitted to be proportional to the length of labor endured before its performance, its mortality rises but very little during the first few hours of labor, and that, therefore, a short test in labor is but slightly harmful and may be considered justifiable if it is thought wise.

Of the truth of this statement there can be no doubt. Unfortunately the value of such a partial test in labor is also slight; little can be judged by the character of the first pains, and with each successive hour the danger of the subsequent section increases *pari passu* with the increasing value of the test. If then it is uncertain when safe and exposes the patient to real danger in the section before it becomes certain, it seems clear that it is desirable that its use should be given up so soon as any efficient substitute for it can be found. Such an advance can rarely be made at a single bound and its full development may take a generation, though there can be but little doubt that future progress in the use of the Cesarean section will consist in a progressive widening of the limits within which the primary section may be applied.

The gradual delimitation of the doubtful class which is so desirable is plainly to be attained, first, by better methods of estimation of the amount of mechanical obstacle presented by a given case; and, second, by the estimation of the value of that obstacle when considered in connection with the information as to the probable character of labor obtained by history and a diagnosis of the constitutional and muscular condition of the patient. The method of estimating the mechanical obstacles now employed by the majority of the profession are, moreover, entirely insufficient, and I think that our power of estimating in advance the muscular character of labor has been much underestimated.

It must certainly be more generally realized that for the first object the conventional measurements are utterly insufficient. We should learn to appreciate the truth that alterations in the pelvis are in fact deformities, which derive their importance from the alterations in the mechanism of labor which result from their presence rather than from the mere diminution of its size; and to properly estimate the mechanical obstacles to be expected from a given case we must make ourselves effectively familiar with all the possible alterations in the shape of the pelvis, and try to diagnose them as accurately as we should diagnose any other morbid condition. In point of fact, it is only after determining not only the kind of deformity, but the degree of this deformity which is present, that we may begin to use measurements and so estimate the amount of mechanical obstacle to be expected from a given pelvis, in connection with the size and degree of ossification of the given head, as determined by the appropriate examination. Such an estimate of the mechanical obstacle will extend the clear limits for the performance of the primary section far beyond those which can be attained by mere measurement, and its study is a subject of great interest and one which deserves more elaborate treatment than can be here given to it, since its full discussion would open the whole subject of the deformities of the pelvis, which is unfortunately beyond the scope of this paper.

It must suffice here to take this for granted in order to fulfill its present purpose of emphasizing particularly the necessity of correcting the indication for the section as derived from the amount of the mechanical obstacle, by estimation of the greater or less strength of the patient, to which it must at once proceed.

In the case in which the indication for the section as derived from the mechanical obstacle alone still remains doubtful as the patient approaches the end of pregnancy, we must consider multiparæ and primiparæ separately. In multiparæ the choice is usually clear. Most obstetricians now agree that really difficult high forceps or version are more severe operations than the primary Cesarean sections, and it may be laid down as a general rule that when in previous labors intrapelvic operations performed by competent men for mechanical obstacles have resulted in stillbirths or extensive damage to the mother, the primary section may be considered indicated without further question. Doubtful cases must be treated by individual judgment, but the important point is that in multiparæ with mechanical obstacles it is not the number of centimeters in the conjugate, but the history of previous labors which should be the paramount point in determining the indication. Common sense should never be forgotten in our practice.

In primiparæ with a doubtful degree of obstacle the indication may still be rendered clear in the great majority of cases by careful consideration of their age and constitutional characteristics. Such consideration will narrow the mechanically doubtful class in two ways: On the one hand, it is a safe rule that strong young women in whom the degree of mechanical obstacle is doubtful may safely be left to the full test of natural labor in the hope that the head may be driven past the brim, and with an abiding faith that if this fails this class of women will endure the intrapelvic operations well and safely. Some babies may be lost, but the women may be trusted not only to survive but to resist morbidity. The management of their subsequent labors may then be determined by the experience gained in the first. On the other hand, the well-known difficulties of labor in elderly primiparæ renders it an equally safe rule that when in such women the study of the mechanical obstacle leaves the result of labor doubtful, the Cesarean section will usually be the safer operation. The difficulties and dangers which attend the use of the intrapelvic operations in elderly primiparæ are well known to every one. It is impossible to estimate in advance the amount of damage which will be done to the soft parts, or the percentage of stillbirths, from such operations, and in such cases this uncertainty rises to a marked contrast as compared with the results of the Cesarean section.

In young women with delicate physique and with mechanical obstacles which leaves the passage of the brim under the natural forces problematic but not necessarily impossible, we meet our most difficult choice. The results will depend entirely on the amount of the efficient driv-

ing force which each develops. It is well known that many delicate women have labors which are surprisingly rapid and efficient in proportion to what has been expected of them; while the parturition of others, apparently not more delicate, is characterized from the start by nagging, irregular and excessively painful contractions and an absence of dilatation or progress.

We have been too long accustomed to be content with saying that it is impossible to decide in advance which form of labor is to be expected in these delicate women, and in the days when the only treatment possible in either case lay in the application of forceps so soon as exhaustion became apparent or the arrest of the head was evidently insurmountable, this apathy was natural and was to some extent excusable; but under the conditions of to-day it is highly desirable to make this decision in advance in at least those women of this class who present mechanical obstacles. It would be idle to pretend that such a distinction is easy or that our knowledge of the subject is fully developed; indeed, it is probable that doubtful and transitional cases will always remain; but with the information which is possessed today I believe that it is possible to distinguish clearly between typical examples of these different types of delicate women, or at least to isolate from among them a class which I have ventured to term the "obstetrically worst equipped," from whom unfavorable labor may be always expected.

Labor is a muscular function and its efficient performance is dependent on the possession of muscular power in combination with a capacity for enduring pain without undue exhaustion; and physiologic research tells us that muscular endurance, muscular coordination and nervous stamina are usually dependent on the possession of good eliminative organs and heart muscle. This combination is often found in otherwise very delicate individuals. Every one knows the occasional man or woman who is excessively frail in appearance, who may never be well, but who is capable on emergency of developing surprising endurance to fatigue. Most practitioners in large centers know, on the other hand, and more especially among the luxurious classes, the type of woman who is abnormally intolerant of discomfort and prostrated by it, and who has always instinctively avoided any employment or amusement which involved prolonged muscular exertion or exposure to fatigue.

These two types, the women of delicate health, who are, nevertheless, wiry and uncomplaining, and those who are by history unfit to endure muscular fatigue, or are prostrated by any nervous strain, can usually be picked out in the rough by ordinary observation, which must always, however, be supplemented by more accurate methods. If women of the latter type be subjected to repeated examinations of the twenty-four-hour urine and a complete physical examination from a medical standpoint, it will almost invariably be found that, in addition to inferior muscles, weak hearts and entire incapacity to withstand anxiety, pain or other nervous fatigue, they have a low metabolism and an imperfect elimination. Such an organization implies an especial incapacity for withstanding the type of strain which is peculiar to pregnancy and labor. Fortunately for our purpose these strains (of pregnancy and labor) are essentially similar and are exerted on the same organs, i. e., the muscles, heart, nervous system and organs of elimination. Since these strains are similar and since labor is preceded by pregnancy, it should follow theoretically that careful observation of the progress of pregnancy should furnish us our most accurate guide as to the weaknesses of the individual woman and her adaptation for the similar strains of labor. Moreover, in my experience, this theoretical probability is most fully borne out by the results in practice.

In the case of such women it is of especial importance that they should be placed under exact care early in pregnancy. Every means should then be employed to estimate with the utmost exactness possible the weak points of the individual woman and to regulate her daily hygiene with reference to building her up in these particulars. Some such women do best under a rest cure with forced feeding, with massage and care of the skin and kidneys; others on carefully graduated and increasing exercise; others on other combinations. The treatment must suit the individual. Many patients whose previous labors have been marked by lingering and exhausting first stages and followed by prolonged neurasthenia or other invalidism will deliver themselves fairly promptly and make reasonably good recoveries after a pregnancy managed in such a manner; and this result may be expected whenever the patient has been observed to improve in her weak points throughout pregnancy. When, on the other hand, a typical instance of the "obstetrically worst equipped" has grown, on the whole, worse under the strain of pregnancy, i. e., when the advance of pregnancy has been marked either by increasing neurasthenia, by progressively poor elimination and by increasing evidence of fatigue after moderate muscular exercise, an unfavorable and inefficient type of labor may be confidently expected.

In such cases the first pains are ordinarily markedly irregular, both in frequency and force, and are usually excessively painful to the patient in proportion to the amount of contraction perceived by the observer's hand. If such labor is allowed to go on unrelieved, this irregularity in both the force and frequency of the contractions persists or increases, the os dilates slowly and the cervix is spasmodically rigid, i. e., of the type which will usually relax under anesthesia, but will recontract when the anesthesia is removed. In all such cases nervous exhaustion, rising pulse and rigidity of the uterus set in early, and if in such cases the hand is passed into the uterus under anesthesia during even the first stage of labor it will usually find one or more zones at which the uterus clasps the child in a spasmodic constriction ring. During the many years in which I believed that the only treatment appropriate for such cases was to subject them to the varying amount of labor which they were able to endure without severe exhaustion, and employ an intrapelvic delivery under anesthesia as soon as the first signs of exhaustion appeared, I made this observation many times, and grew to believe that the early appearance of constriction rings and consequent arrest of the driving force, is an almost invariable accompaniment of even first-stage labor in the restricted class of unfavorable cases of which I am now speaking.

If such labor is allowed to go on without interference its results will vary with the condition of the opposing forces. If parturition is unopposed by any mechanical obstacle except the spasmodic rigidity of the opposing soft parts a majority of the cases will, in the end, struggle through either to a natural delivery or to a passage of the brim under the natural forces and the application of low forceps. Such deliveries are, however, by no means always favorable in their remote results, whether effected by Nature or the forceps; they are always attended by considerable, and often by extreme, lacera-

tions, due to the feeble but spastic condition of the opposing tissues, and, moreover, in such women any but the briefest labor is usually followed by a period of more or less neurasthenia as a result of their obstetric exhaustion. When, on the other hand, the constitutional conditions found in such cases are complicated by the presence of even moderate mechanical obstacles such as would easily be overcome by strong women, the natural passage of the brim is almost never accomplished, and the difficulties and severe lacerations which attend the high intrapelvic operations under such conditions are familiar to every obstetrician, even to those who have not fully appreciated their etiology. These more severe deliveries are, moreover, almost of necessity unfortunate in their remote results. Indeed, in my experience the nervous exhaustion which such women derive from the fatigues of labor in combination with the shock and trauma of severe operating is too often followed by neurasthenia, which it may require a very long period to overcome.

In short, this "obstetrically worst equipped" class is composed of women who are peculiarly ill equipped for labor; they endure natural labor badly, they show a high percentage of morbidity after the intrapelvic operations, and the low resistance which they develop after even a moderate amount of labor renders them peculiarly unfit subjects for the secondary Cesarean section; but they are not particularly bad subjects for any other surgical work. Their peculiar unfitness is for labor. No one hesitates to perform either plastic or the ordinary abdominal operations on these women, as on any one else, and they make ordinarily good convalescences. The difference in their behavior to these two different strains is due to the fact that labor imposes an especial load on their physiologically weak points of inability to withstand prolonged pain or muscular exertion, while one of the most striking points about modern surgery is its exceedingly small interference with the physiologic processes of the patient. When, therefore, a typical example of this class of the "obstetrically worst equipped" is complicated by an even moderate degree of mechanical pelvic obstacle, I believe that it should be unhesitatingly subjected to the primary Cesarean section. The patients whom I have so treated have made perfectly satisfactory convalescences and have enjoyed good health during the subsequent year or more, and have been in this latter respect in marked contrast to the much larger number of patients of the same class whose labors I have treated by other methods.

In these cases I believe that we should be guided by the modern surgical axiom, to which we unhesitatingly commit ourselves in the other departments of our work, that it is always wise to recommend a relatively safe operation rather than to subject the patient to the chances of a late operation for a doubtful and uncertain condition.

In brief, the points of belief which I have here endeavored to present are, that in all cases of prospective major difficulty which we are able to see during pregnancy we should first make every effort to narrow the doubtful class by more intelligent study of mechanical conditions than has heretofore been the rule, and that we should then treat any doubtful cases which may still remain by correcting our attained estimate of the mechanical conditions by every method of estimating the probable character of labor which we have at our disposal.

In multiparæ of the mechanically doubtful class we should be guided in the end, and without hesitation, by the favorable or unfavorable history of their past labors. The proof of the pudding is in the eating.

In primiparæ the decision is more difficult, but strong, young primiparæ may usually be trusted to natural labor, and, if necessary, the intrapelvic operations, which they commonly endure without serious subsequent morbidity. The same may be said of delicate women of the more wiry and enduring class and in the slighter degrees of mechanical obstruction of all young women who improve in constitutional condition during pregnancy. Whenever, on the other hand, in elderly primiparæ, or in younger women with exceptionally rigid soft parts, the choice, from a mechanical standpoint, is an essentially doubtful one, the balance of advantage lies with the primary section; and the same may be said of the "obstetrically worst equipped" who deteriorate during pregnancy.

In conclusion, I am urging on you that the ideal position, which we have not yet reached, but toward which we should strive to attain, is not only that abolition of the ultra dangerous late section, to which all will agree, but that, since the mortality of the section and the severity of convalescence seem to be in general proportionate to the length of labor endured before operation, and since the so-called test in labor is either unsatisfactory if employed for but a short period, or dangerous if carried to a really satisfactory test before the performance of the section, we should take for the object of our ambition the employment of the ideal and safest operation in all cases in which any form of major operation is to be necessary.

That position, in its entirety, we may never attain, but we should urge ourselves toward it by constant effort toward the perfection, both of our methods of predetermination of the indication and of the furtherance of the prospect of successful natural labor by the intelligent management of pregnancy.

It is evident that one chief stumbling block in our line of progress is, and for some time to come must be, that the general profession as yet realize too little that practitioners who do not intend to perform the major operation themselves should always feel bound by their duty to their patients to call in consultants in all cases which promise major difficulty at the time when such aid is most likely to be valuable, during pregnancy, and not, as is now too often the case, when all the conditions which are most detrimental to both mother and child have already been called into being by the failure of natural labor or attempts at extraction.

I believe that it would make toward the furtherance of this most desirable object and be for the benefit of all concerned if obstetric experts would learn to consider themselves as consultants, whose personal practice is limited to the advisory care of pregnancy and the operative management of difficult cases, rather than as competitors with the general practitioner for the care of normal cases. In this, as in other lines of the profession, so soon as the general practitioner finds himself unmolested by competition in the class of cases which he is competent to manage, he will be ready to summon consultants in cases which puzzle him or promise the major difficulties which it is generally to his interest to avoid.

Roentgen Diagnosis in Syphilis.—Perry Brown, in the *American Quarterly of Roentgenology*, states that the Roentgen method of diagnosis as applied to cases of late acquired and congenital lues is of definite, practical importance, and should be employed in every suspected case, both for the practitioner's enlightenment and for the patient's ultimate good.

THE DELIVERY OF DEBILITATED WOMEN, WITH ESPECIAL REFERENCE TO THE INTEREST OF THE CHILD.*

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No statement is more true than the old remark that natural labor is a spontaneous and successful process which prohibits interference. The universal application of this remark to obstetric practice without discrimination has cost the lives of many mothers and children.

If there had been added to the foregoing sentence the phrase "in anatomically and physiologically perfect individuals," the statement would have remained unchallenged. Pathologic conditions, inherited or acquired, and largely the products of modern life, have made a perfectly natural labor a rare occurrence, because anatomically and physiologically perfect individuals seldom exist.

We recognize in obstetric pathology certain abnormalities easily diagnosticated, and therefore not especially dangerous for the patient; such, for example, is a highly contracted pelvis, especially if accompanied by manifest deformity in other portions of the skeleton. The presence of a large abdominal or pelvic tumor complicating pregnancy draws attention to the impossibility of spontaneous labor. A remarkable prolongation of pregnancy suggests at once the possibility of overgrowth in the fetus and consequent difficulties.

It is, however, in women debilitated by heredity or acquired conditions, or slightly deficient in natural development, that insidious danger in labor may arise, seriously threatening the lives of mother and child. This paper refers to these cases.

Moderate disproportion between mother and child is not infrequent. The most common abnormal pelvis is the justo-minor, which, from its lack of deformity, often escapes detection. In the hands of those who do not practice pelvimetry before labor, the first warning of its existence may be the undue prolongation of parturition. This pelvis is often accompanied by deficient development in the muscular system, and by an inherited or acquired lack in nervous force and stamina. If such a woman be married to a man of normal or unusual development, the child resulting from such a marriage may be sufficiently large to create dangerous disproportion.

These cases are considered peculiarly appropriate for the induction of labor. In first pregnancies, however, this condition must remain unrecognized, unless pelvimetry is practiced; and in the absence of this the opportunity for induced labor is lost. When this condition is recognized early in gestation, the obstetrician has the choice of several procedures. He may try to modify the size of the fetus by regulating the mother's diet; he may encourage premature spontaneous labor by causing her to exercise freely; he may interrupt pregnancy at a time chosen by himself; he may allow the patient to go to term, standing ready to aid in whatever way may be necessary.

In choosing between these various courses, our experience has been that the modification of fetal size by regulating the mother's diet, is uncertain and unsatisfactory. Furthermore, patients often lose appetite, become badly nourished, and at labor are deficient in strength and endurance. The choice of treatment in our experience lies then between the induction of labor and allowing the patient to go to term, with the understanding that the operator shall be free to assist delivery in any manner thought best. In order that this arrangement be fairly understood, the obstetrician must lay before the parents the relative chances of the different procedures for mother and child. It is scarcely just to quote hospital statistics, for such do not always apply accurately to our private patients. It seems fairest to all concerned that the obstetrician should state his own results with patients, and the class and type to which the case under consideration belongs. This reasoning may be illustrated by the following:

A slender, ill-nourished and not well-developed woman, in her first pregnancy was found to have a justo-minor pelvis, whose external conjugate was 18.5 cm. Her husband was normally developed. Anticipating difficulty in labor, the case was laid before the parents and two propositions were offered: one to induce labor, the other to allow the patient to go to term and to receive such assistance during labor as might be necessary. The patient objected to the induction of labor as something unnatural and therefore harmful. This objection, however, was gradually overcome and labor induced. Delivery was accomplished in two successive labors by this method. The children are not especially robust, but vigorous, and the mother remains in excellent health.

The induction of labor for disproportion in moderately contracted pelves is not always successful.

A woman aged 33 years, not well nourished and poorly developed, was found to have a justo-minor pelvis, whose external conjugate was scant 17 cm. The internal conjugate was a little over 8 cm. She is the wife of a physician, and in her first pregnancy her husband and herself requested the induction of labor. They declined to consider other methods of delivery. The patient accordingly entered a hospital and labor was induced by the introduction, under chloroform, of bougies. The cervix was so ill-developed and contracted that it was necessary to dilate it artificially to secure the introduction of bougies. Considerable bleeding accompanied the dilatation. The membranes were not ruptured. The bougies remained in the uterus forty-eight hours without exciting labor pains. They were then removed and the cervix was found very little altered. Gauze packing was then introduced through and around the cervix, and on the day following the membranes ruptured spontaneously. Labor pains were still absent. The patient was then anesthetized, the cervix dilated with Newell's dilator as far as seemed prudent, and an elastic bag introduced and distended. This caused considerable suffering, but no efficient uterine contraction. When this failed to secure the desired result, namely, prompt dilatation, and the action of the uterus, it was removed, the patient requiring morphia to secure sleep. On the day following, prolapse of the umbilical cord occurred with the development of shoulder presentation. The patient was then anesthetized, the cervix cautiously dilated with the hand, aided by multiple incisions, and a dead and slightly macerated fetus was delivered. The cervix was considerably torn, but it was immediately sutured and healed promptly. Intravenous saline transfusion was practiced, the mother making a good recovery.

This patient soon after again became pregnant and, at the request of both husband and wife, was delivered by abdominal section, mother and child making good recoveries. As husband and wife declined to risk further pregnancy, at their request celiohysterectomy was performed.

In reviewing the cases of delivery by abdominal section, I find, in a total of fifty cases, six in which labor was terminated by abdominal section, although begun by the induction of labor. Experience shows that the induction of labor should not be undertaken unless the operator is prepared, in the interests of mother and child, to terminate labor by abdominal section. With this experience in mind, induced labor should be carried only to the point of developing the patient's natural

* Read in the Section on Obstetrics and Diseases of Women of the American Medical Association, at the Fifty-eighth Annual Session, June, 1907.

forces of labor. Should engagement not occur, the operator must choose between version and extraction or abdominal section. If the interests of the children are to be considered equally with those of the mother, a considerable mortality after version and extraction, and a very low fetal mortality after abdominal section, will often lead to the choice of the latter.

In forty-one cases of delivery by abdominal section in which mother and child were in good condition before the operation, my maternal mortality has been one, or 2.4 per cent., and the fetal mortality nothing. With such experience, where the life of the child is earnestly desired, delivery by abdominal section must be seriously considered in comparison with other methods of delivery.

The foregoing remarks are illustrated by the following case:

A primipara, aged 40, the wife of a physician, was brought for treatment at full term. The pelvis was normal, but the patient's general condition poor; she was neurotic, badly nourished, with almost an entire lack of muscular development, and very apprehensive concerning her confinement. The cervix was thick and inelastic, and on palpating the abdomen irregularities could be detected in the uterine muscle. Fearing difficult labor, the husband requested that his wife be attended in a private surgical hospital. Accordingly, through the courtesy of Dr. Keen, she was admitted to his private hospital. She passed the full term of gestation, as nearly as could be made out, by ten days, without signs of labor. The cervix softened very slightly, but the head did not descend, and uterine contractions were lacking. The choice of delivery was left entirely with the operator, and after stating the merits of various procedures to the husband, both husband and wife accepted delivery by abdominal section. Accordingly, after the patient was anesthetized by ether, the cervix was dilated sufficiently to permit drainage and the child delivered by section. The uterus was found to contain multiple fibroids, largely intramural and small in size. There was sufficient sound tissue to permit the operator to close the uterine incision successfully. Accordingly, celiohysterotomy was performed, the patient making a good recovery. The child, a healthy male, survives in excellent health. At the time of operation the opinion was expressed that the uterus was probably the site of fibromata. The patient's husband requested that the uterus be removed if the operator thought best. In view of the desire of the parents for children, and the fact that it was found possible to unite the uterine wound through sound tissue, the uterus was not sacrificed.

Cases are occasionally seen in which nervous debility, with total absence of the usual forces of labor, render parturition difficult and dangerous for mother and child.

A primipara, aged about 40, with a highly neurotic inheritance, became apathetic and melancholic during her pregnancy. She neglected to take nourishment, and it was necessary to put her in charge of a nurse, who caused her to eat and to exercise regularly. Labor began very inefficiently at full term, the pelvis being normal and the child evidently large. Anticipating difficulty, the husband of the patient had been informed during her pregnancy that unusual danger would arise at parturition. A consultation was advised and accepted, and on examination it was found that the child was undoubtedly above the average size, and in breech presentation. The lower uterine segment was poorly developed and the cervix thick and inelastic. To deliver the child in breech presentation through the vagina would inevitably result in severe laceration for the mother, with a possible high mortality rate for the child. Accordingly, delivery by abdominal section was proposed and accepted. A vigorous male child, weighing nearly nine pounds, was delivered, mother and child making good recoveries.

In dealing with highly debilitated women who have exhausting constitutional disease, abdominal section may be selected. That form of delivery which is quickest and attended with least shock to the mother must be selected.

A primipara, aged between 35 and 40, was admitted to the Jefferson Maternity, both husband and wife anticipating the necessity for surgical delivery. The patient was emaciated, very poorly developed, with dorsal kyphosis, and with a poorly developed birth canal. The pregnancy was at about the seventh month. The pelvis was considerably contracted in all diameters. Both husband and wife requested, if possible that further pregnancy be prevented. The patient was put to bed and given tonic treatment with the hope that pregnancy might be prolonged until the child was fully viable. Labor came on prematurely without efficient pains and without engagement of the head. As she bore pain badly, it was determined to deliver her by abdominal section. She was accordingly subjected to the Porro operation, the entire procedure from the beginning until the dressing was completed occupying thirty-five minutes. She made an uninterrupted recovery, with an excellent scar. Her child survived several days, but finally perished from inanition. The mother was unable to nurse it.

Excessive debility or weakness may be the direct result of severe infection. In case a woman in whom natural delivery is impossible becomes infected and exhausted, the Porro operation should be the choice of the obstetrician. It is performed in a comparatively short time. It removes the greater portion of the septic uterus, leaving cut surfaces outside the peritoneal cavity.

Two patients were admitted to the Jefferson Maternity whose cases illustrated these remarks. Both were multiparæ, exhausted by repeated parturition; both had contracted pelves, and had been subjected to prolonged anesthesia with ineffectual efforts at delivery through the vagina. In both cases craniotomy was unsuccessful. Both mothers recovered without complication after the Porro operation, the children being dead before operation.

The term "Porro operation" should be strictly limited to the operation as performed by Porro. This consists in hysterectomy with the extraperitoneal treatment of the stump. Celiohysterectomy with intraperitoneal treatment of the stump is sometimes erroneously called the Porro operation. This latter is extremely dangerous in all infected cases, and should never be performed in such cases. If the operator wishes to do hysterectomy on an infected parturient woman and declines the Porro operation, complete removal of the uterus should be practiced.

Two conditions which always threaten the parturient woman with most dangerous debility of an acute variety, have been made the subject of study of abdominal section. I refer to eclampsia and placenta prævia. If eclampsia is to be treated by rapid delivery, abdominal section can certainly compete with rapid dilatation and extraction of the fetus. In highly toxemic patients the tendency to fatal hemorrhage must not be overlooked, and this comprises one of the dangers of delivery by abdominal section. This danger applies equally to rapid dilatation and extraction, which not infrequently causes severe laceration.

Abdominal section for central placenta prævia has been successfully performed in a number of cases. The limitations for the operation are exceedingly narrow, and comprise cases of primiparæ in whom the birth canal is very resistant and poorly developed. The cases must be seen at the very beginning of hemorrhage before the patient has lost sufficient blood to reduce her strength greatly. Operation must be done immediately, if done at all, without delaying to try other methods of treatment. Under these conditions, in the hands of those accustomed to operate, delivery by abdominal section has given good results.

The danger of pelvic delivery in debilitated patients is sometimes so great as to cause the operator to feel that possibly in such a case parturition is practically a fatal occurrence. When we contrast the difficulty and shock attended by pelvic delivery with the apparent freedom from shock seen after abdominal section in patients in good condition, the comparison seems greatly in favor of section.

A woman of naturally good constitution, a lover of luxury, lost her first child near term from specific infection. In the few years following two abortions occurred, from which the woman made a good recovery after curetting.

The fourth pregnancy proceeded successfully to term, the patient being very apprehensive concerning her confinement. She discussed various methods of delivery, but positively declined to consider the merits of section. Her muscular tissues were almost entirely undeveloped and she bore pain very badly. Labor was induced at term, as there were no signs of parturition, the pelvis being normal. The introduction of bougies was followed by softening and partial dilatation of the cervix. Elastic bags excited uterine contractions, which did not become vigorous but caused great pain. The cervix was very resistant, and a large bag burst while partially distended. As the patient bore pain very badly and progress had ceased she was anesthetized with ether and the cervix dilated by multiple incisions—not by the fingers—with great difficulty. The occiput rotated posteriorly and could not be turned to the pubes. It was accordingly delivered posteriorly, with laceration of the pelvic floor extending to the rectum but not opening into the bowel. A living female child weighing eight pounds was delivered, who survives in good health. Hemorrhage was prevented and the lacerations were immediately closed. The mother became conscious after labor, but died some two hours after with profuse bronchial catarrh and dilatation of the right heart. Twice previously, when etherized for curetting, she had borne the anesthetic badly.

When the length of time occupied in this delivery through the pelvis, the mechanical difficulty, the extent of inevitable laceration, and the shock to the patient, are considered and compared with the length of time needed for delivery by section, the rare occurrence of shock, the clean incisions made, and their successful closure, the comparison is favorable to delivery by section.

Pubiotomy is at present attracting much attention as a substitute for delivery by abdominal section. It is claimed for this operation that the pelvis is quickly opened, with a small and insignificant wound, the gain in pelvic diameter being permanent. To this extent, the claims of pubiotomy can not be denied, but pubiotomy does not deliver the child; there must follow delivery through the pelvis and vagina, with the risks of unfavorable mechanism, and with greater than ordinary danger of laceration and hemorrhage for the mother.

My experience in symphysiotomy numbered eight cases, and, while the results were fairly satisfactory, they were not so favorable for mother and child as the results of delivery by abdominal section. The comparison between symphysiotomy and pubiotomy has not so far led me to adopt pubiotomy. A maternal mortality after pubiotomy of 5 per cent., five-eighths of which was from septic infection, is quoted by Bill,[1] computed from the statistics of Gigli and Kannegieser, with 11 additional cases, 157 in all, collected by himself. A fetal mortality of 17 per cent. is reported by Kannegieser. Henkel[2] believes that the maternal mortality of pubiotomy at the present time is between 6 and 7 per cent. The complete statistics of maternal and fetal mortality after pubiotomy are not as yet in our possession. At present its results do not equal those of delivery by abdominal section.

In the presence of debility with normal pelvis complicating parturition, rapid dilatation with Bossi's dilator, or vaginal Cesarean section, must be compared with delivery by abdominal section. The use of Bossi's dilator in many debilitated patients is exceedingly dangerous, because these patients are not well developed, the cervix is inelastic and tears extensively. Vaginal Cesarean section has the merit of avoiding severe laceration, and substituting for it clean incisions readily closed by suture. Vaginal Cesarean section, however, does not rid the patient of the dangers incident to pelvic delivery. The child is usually in some danger from unfavorable presentation and birth-pressure.

A further advantage in abdominal delivery in debilitated patients, if the life of the child is to be seriously considered, lies in the fact that the patient's chances are in no way injured by the prolongation of pregnancy. In fact, the operator may delay for a week or ten days by allowing the patient to go over time, and utilizing the opportunity to give her tonic and preparatory treatment; labor need not be awaited, for but little dilatation is necessary to secure the discharge of the lochia, and such can readily be effected at the time of operation. On the other hand, pelvic delivery is rendered more difficult and dangerous the longer the patient goes beyond the limits of pregnancy. Furthermore, abdominal delivery becomes an elective operation, to be performed at such time of the day, and under circumstances most favorable to the patient.

The objection is sometimes urged against elective major obstetric operations that they should not be urged on general practitioners, to whose care many such patients inevitably come. The general practitioner, however, is quite as competent to deal with cases of complicated gestation and parturition as he is with appendicitis, strangulated hernia, infection of the gall bladder, intracranial hemorrhage or strangulation of the intestine. In all of these latter, surgical aid would immediately be summoned. The same rule should apply to complicated parturition, when the results of obstetric surgery will compare favorably with those of surgery in other branches. The evolution of medical teaching is producing a considerable number of men competent to do obstetric surgery. The number of hospitals is rapidly increasing throughout the country. It is rare to find a community inaccessible to a competent obstetric surgeon, and most of such cases are within the reach of hospitals.

The obstetric surgeon, however, must be independent of hospital facilities. He must possess an armamentarium and such assistance as will make it possible for him to carry out hospital technic in private houses. The fact must be recognized that while cases of complicated parturition should be sent to hospitals, this is often impossible. A difficult forceps extraction with the repair of injuries to the genital tract is repeatedly done successfully in a private house, and I have twice operated successfully in private houses by abdominal delivery. Although the difficulties and responsibilities of such operations are not inconsiderable, with thorough care and competent assistance, the results are good.

I may summarize my consideration of this subject with the statement that at the present time delivery by abdominal section, especially if elective, compares favorably with other methods of delivery for mother and child in debilitated patients.

1. Surgery, Gynecology and Obstetrics, July, 1906.
2. Ztschr. für Geburtschülfe und Gyn., lvii, No. 1, 1906.

DISCUSSION

ON PAPERS OF DRS. REYNOLDS AND DAVIS.

DR. GEORGE M. BOYD, Philadelphia, agreed with the authors. He has always felt hopeful for the classical Cesarean section, anl plead for section or surgical interference at term rather than the induction of premature labor in already contracted pelves. The elective Cesarean section has the least mortality, and if it were only possible to decide with ease its indication as in some surgical problems, this, he said, would be the operation to perform. Until it is possible to estimate the size of the fetal ovoid, better study the patient's general condition, determining the onset of labor and know how well the uterus will perform its function; in his opinion it will be better to permit the larger proportion of cases of contracted pelvis have the test of labor. He felt that if the patient is carefully watched during labor with the anticipation of possible surgical interference, the mortality of section will be rapidly decreased. The test of labor will be the only way to decide on the course to pursue. Those who favor the induction of labor claim that it is indicated in pelves of a moderate degree of contraction. In one case under his observation a rachitic and greatly contracted pelvis, the patient went to term and was delivered spontaneously, pointing out the difficulty of determining before labor the case that will require Cesarean section.

DR. DANIEL LONGAKER, Philadelphia, thought the plan of sterilizing the woman where the repetition of pregnancy is undesirable a wise one, and he followed it in a case of his own. Instead of doing a hysterectomy, he tied a loop in the tube and cut the loop. It is a very simple and easy procedure, and he thought that there is everything to recommend it. In his patient there was no question of the undesirability of a repetition of pregnancy. She was a woman who had suffered from hip-joint disease in early childhood, and had a marked obliteration, a non-development of one side of the pelvis—an exaggerated oblique pelvis. The result was perfectly satisfactory.

DR. D. F. GRAY, Providence, R. I., stated that one point not brought out is the simplicity of the Cesarean section. He has seen a dozen or more women delivered by forceps where the baby was dead, the mother bruised and lacerated, when she might have been delivered safely by Cesarean section. One of his sections was done on a woman who had had nine dead children in succession. Her tenth child, delivered by Cesarean section, was the only living one. Another patient had had three Cesarean sections with two living children. She had previously had three dead children. The difficulty, he said, is to determine in which cases Cesarean section should be done. One woman had had eight children, six with very easy labors, two very hard ones, in both of which the children were dead. In the last case, he thought, the baby might have been saved had Cesarean section been done.

DR. J. M. BALDY, Philadelphia, sounded a note of warning in connection with the point brought out by Dr. Longaker relative to sterilizing the woman by tying the tube. In a case under his care, in which it was desired to make future pregnancy impossible, he resected one side entirely, and tied a silk ligature around the other tube, thinking, of course, the woman would be sterile. Four months afterward the woman aborted. Under similar circumstances he would resect the tube entirely, never taking a second risk. The silk ligature had evidently cut through, and the patency of the tube had re-established itself.

DR. H. G. WETHERILL, Denver, Colo., was in accord with Dr. Reynolds in regard to the very great significance of the previous experience of the women in labor. One particular patient under his observation had had two difficult labors, in both of which the babies were delivered after craniotomy. The pelvic diameters were very definitely under the normal. In this particular pregnancy the woman went to the hospital, expecting to have a Cesarean section done as labor began. After one or two successive pains, the patient delivered herself. He also agreed with Dr. Reynolds in regard to the indication for Cesarean section in these cases, and yet, he said, there are exceptions that prove the rule.

DR. EDWARD REYNOLDS, Boston, Mass., said that the profession has taken too much the position that the performance of Cesarean section is in itself a great evil. It is not. It is an exceedingly easy abdominal operation, and under proper circumstances a safe one, and its primary performance is often less of a danger than allowing the woman to take her chances otherwise. The great point of all is, however, that the doing of the Cesarean section during, or late in labor, simply because it is an easy operation is one of the most disastrous and death-dealing things with which the profession has to deal. It is one of the greatest evils to let things run along, and then if they do not work just right, do a late Cesarean section because it is easy. That, he said, is all wrong.

DR. E. P. DAVIS, Philadelphia, agreed that, mechanically speaking, the ordinary celiohysterotomy is a simple operation, and yet, the more such operations he does, the more apprehensive he feels concerning them. It is an operation that requires the intelligent cooperation of a number of trained persons. If a physician proposes to be an obstetric surgeon and wants to cover a considerable variety of operations, he must train and keep with him assistants who work habitually with him. The obstetrician is often obliged to operate in private houses or in farming communities apart from hospitals. Such a man must rely on one or two trained assistants. Those who operate in hospitals have nurses trained so that they can go into a private house into the patient's bed-room and with such help do successfully the Cesarean section. Dr. Davis would not, however, undertake such an operation where the practitioner had applied forceps several times or even once, unless he knew that man's technic. He would not undertake to do a Cesarean section assisted by persons whom he did not know, no matter how good their intentions might be. Unless they had had certain surgical training and technic, he would feel that the operation would be a dangerous and disastrous one. His effort in the whole matter is to plead for improvement in obstetric surgery. Furthermore, he wished to be put on record as not minimizing the difficulties of operation. It makes a great difference who is watching out for hemorrhage when the uterus is opened; it makes a great difference what nurse has charge of the pads, and the reassurance that one woman can cause will greatly aid in the technic. The best results in obstetric surgery are undoubtedly obtained by the operator with assistants who habitually work with him.

THE DUTY OF THE PHYSICIAN TO THE SCHOOL CHILD.*

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Child study has become so universal a topic that it has reached the climax of a fad. Child culture has absorbed society to such a degree that I fear it has lost its dignified scientific prestige. Some one has said, in one of our popular periodicals, that what the average child needs nowadays "is a little wholesome neglect. He is studied and observed and cultivated until he can not take a long breath and take it naturally." Another writer says that the one thing on earth that needs to be stamped out, and stamped out quickly, is the American fad of child culture and child study.

This is not true, however, in our professional relations; we must continue the agitation, not with the physician-student of sociology, to whom it is unusually attractive, but with the parents, until they can appreciate what is being done for their children among the teachers and physicians throughout the country. What we need, as physicians in our work among young children, is better mothers with intelligence to cooperate in the upbuilding of the nation, and until we gain that in-

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telligence among parents we make slow progress with the greater number.

Undoubtedly, school life for the young, the child from 6 to 16 years, as it is likewise with the adult, is growing rapidly more complex; work is now given to children far beyond their mental caliber—too much thoroughness is expected at a tender age—hence the tension on body and brain is frequently disastrous and destructive of symmetrical development. If the course of study in our public schools, as outlined for the present year, be compared with the work required in 1888 (19 years ago), it reveals the fact that educators assume that a higher grade of intelligence is possessed by the young beginner. Take, for example, the course of arithmetic for the fourth grade in 1888: a child was required to know then numerals from 1 to 10; Roman numerals to C; coins from 1 cent to a dollar; pint, quart, gallon, bushel; inch, foot, yard; ounce, pound; day, week, month, year; second, minute, hour and dozen; adding, subtracting, multiplying and dividing numbers from 1 to 50, inclusive. A child in the fourth grade at the present time is required to read and write numbers to seven places, rapid addition of columns, multiplication with three or four terms in the multiplier, with one or two ciphers at the right of multiplier and multiplicand, division of two or three terms, and remainder to be written in form of a fraction, United States money, addition, subtraction, multiplication and division; also simple problems in business transactions; find exact fractional parts of numbers—and such problems as: "If two-thirds of a yard of silk cost $4, what will two yards cost?"

From the course of nature study I need only quote two examples from the respective curricula: In 1888 a child in the fourth grade was required to have "conversational" lessons about interesting and attractive objects, animals and plants. In the fourth grade to-day the child must have lessons on "the general use of the skull and jaw, the spinal column, collar bones, shoulder blades, ribs, arms and hands, legs and feet, injurious effects of tobacco, drugs and alcoholic drinks"!

In the language course in 1888 the children were taught in the third grade the use of capitals, the period and the question mark and capitals in proper names. The children in the same grade are taught in 1907 the form of a letter, heading, body, closing and superscription of envelope. You will quickly recognize the great change between the school of nineteen years ago and the requirements in the course of study forced on the child of 10 years at the present time whose mental development is no further advanced than it was in the child of the same age in 1888. This intelligence is not in evidence, it can not be proved; hence we regard the advanced requirements and increased number of branches a menace to the natural unfolding of the young child's mentality, ofttimes assuming grave proportions, approaching serious embarrassment to the present and future health of the child.

Multiplicity of studies for the young child creates an artificial, generally a superficial mentality, and in the endeavor to keep pace with the class a tension is usually created with its invariably disastrous reflex on the body.

It is not my function to sit in judgment on the curriculum of the primary public school; a task that has occupied the minds of our best educators for many years. The present standard is undoubtedly the outgrowth of profound study, yet the marvelous revelations of psychology inform us that the average student can not make uniform progress by the application of rules suited to a large number. The personal equation should be more fully studied as to physical and mental power. This unusual adjustment of childish mentality drew forth the opinion of Judge Sweeney, of the Juvenile Court of Newark, N. J., on the "grinding monotony" of school life. He is of the opinion that much of the delinquency and deficiency of youth is due to the "grinding monotony" of the schools. As delinquency, in the sense employed in this connection, relates not to the studying of the pupil as a student, but as a member of society, the charge becomes a particularly grave one.

Few children abhor the imparting of knowledge, and, when presented in an attractive manner, with a good teacher on a par with the intellectual caliber of the child, no pleasure can exceed it, and hence it does not seem to be an excuse for permitting the school experience of a child to be either grinding or monotonous.

It is told that Henry Ward Beecher said that if the officers of his church saw sleepers among the congregation it was time they sent the sexton to wake up the preacher.

It is necessary for the mental and physical safety of the child that the training should be adapted in a larger measure to the individual needs of the child and not to exercises participated in by all members of the class possessing varied capacities. A failure to individualize frequently results in great danger of over-reaching the child's capacity. In the graded schools, the fact is ignored that normal children vary as to time and order of development of power to grasp certain intellectual truths, or to respond to the usual tests of the ability to discriminate and understand dawning knowledge.

In a class of 40 children, we may collect the same age and physical conditions, but we will not gather together that many possessing the same mental aptitude. Many may be deficient in vocabulary, possessing the knowledge but not the power of expressing it; others may be deficient in writing or arithmetic, and yet excelling in some other branches. This method of producing machine-made students is very destructive of true education. It is to avoid this machine-making process that the psychologic teacher, or the influence of the trained physician, is so necessary to prevent the blurring or distorting of the unfolding mentality.

The true standard of grading should be the power of the pupil to fix and hold attention on a given subject. This recognition of attention as a process of mental development seems to be a secondary part of classification in our schools. The power of holding the attention is very slight in young children and should, therefore, be the basis of their grading. The psychologist tells us that a child of 10 years can rivet the attention for no longer than ten minutes. If this effort is continued longer, the mind wearies and wavers; if persisted in, it fails to record the mental impression. The recognition of the limited power of attention in the young child should be, therefore, the true unit of school classification, and this regardless of the age of the child.

This varying power of attention is associated with such intimate relations, with the heredity of the child and its environment, that, as physicians, we must emphasize the necessity of removing early in life the mental and physical defects found in school children, so that they may fall into the proper sphere for the development of the very best power in them. It is only in recent years that the physician has had any influence in molding the classification of the school child. We should improve and extend our opportunity. John Spargo says:

The number of dull and backward children in our public schools is so great that a study from this physiologic point of view would seem to be quite as desirable and important as the many exhaustive and valuable psychologic studies with which the literature of child study abounds. For many years special tutorial methods and institutions have existed for idiot and feeble-minded children and such other classes of distinctly defective children as epilepties, the blind, deaf and dumb. But it is only in recent years that any effort has been made to deal with that far larger class of children distinguished equally from these distinctly defective classes and from normal typical children. These pseudo-atypical children, as Dr. Grozmann terms them, are much more numerous than is generally supposed.

Professor Monroe, of Stanford University, gathered particulars relating to 10,000 children in the public schools of California and found that 3 per cent. of them were feeble-minded, and not less than 10 per cent. backward and mentally dull, needing special care and attention.

These children who skirt the borderland of abnormity can not properly be dealt with in the ordinary classes, and it has been found necessary in most cities to establish special classes for their benefit.

While some of these classes have children whose backwardness is more apparent than real (the children of foreign emigrants, for example, whose difficulties with the language cause them to be graded with much younger children), the problem is still serious when all possible allowance has been made for these. In districts where the number of foreign-born children is very small the percentage of backward children is very great. The percentage found in the schools of California by Professor Monroe is probably not too high for the country as a whole. In a general way it corroborates the findings of European investigators, and a number of educators to whom I submitted the question have given estimates based on their personal observations ranging from 10 per cent. to 15 per cent. If we accept the California figures and apply them to the whole country we get a total of about 1,500,000 such children enrolled in the public schools, for not more than one-fourth of whom has any special provision been made or attempted. The seriousness of the problem will be apparent to teachers and others familiar with school work who know how seriously one or two such children in a class of forty or fifty will impair the efficiency of the teacher's efforts.

The classical examination[1] of 100,000 London school children, made by Dr. Francis Warner in 1890, showed that over 1 per cent. were actually mentally deficient. Numerous inspections of large numbers of school children in this country show that this ratio holds good here. This means that there are 2,600 backward children of school age in Philadelphia. This large number of defective school children acts as a constant menace to the happiness and progress of the school.

To quote again from Dr. Fernald's Philadelphia address, one or more of these subnormal or backward children are to be found in every primary school. These backward children are usually inattentive, easily fatigued by mental effort and lose interest quickly. They are not observant, and they are not able to discriminate quickly and accurately as to color, form, size, position, number, etc. They may be dull and listless, or restless and excitable. They are often wilful and disobedient, and liable to attacks of stubbornness and bad temper. They may have untidy personal habits. A certain degree of motor defect is usually shown by awkward gait, movements and attitudes, by inability to button clothing, or to lace shoes or put on overshoes. In drawing, writing and manual training, this inco-ordination of the muscles of the fingers and hands is plainly shown. The lack of alertness and dexterity in simple gymnastic exercises is very evident, though occasionally a case without motor defect is found. In the ordinary games of children they lack initiative and spontaneity. They do not show the strength of normal children. "Such children are, in very many cases, incapable of successful mental effort, and much of our national expenditure for education is in consequence an absolute waste" (Spargo).

These pupils fall hopelessly behind the class from the first day of the school, spending two or three years in a class, dragging along in the grades, being promoted only when they become too large to occupy the benches designed for smaller children, or because they have absorbed all that was possible from the work designed for that grade, until they end their school career thoroughly unfitted for the stress and strain of life. The essential thing is that the child is not able to profit by the ordinary methods of instruction as shown by failure of promotion through lack of capacity.

A trained observer can generally select the defective children in a school after a brief period of observation. Their mental, physical and nervous inferiority is usually evident and unmistakable. They are now recognized as a type of lesser mental defect or backwardness, differing from the truly feeble-minded only in degree of defect. The mental dulness in these cases is not a sign of mere arrested development, but is caused by some abnormality or inferiority of the brain itself. I have never seen an experienced primary teacher who, in practice, was not familiar with this type of backward child. The average teacher does not fully interpret the lack of intellectual development. It is possible that she may shrink from the usual parental indignation and protest at the suggestion that the child may be defective mentally. The teacher is apt to believe that the school failure of the pupil is caused by the voluntary and wilful lack of attention and effort.

One prominent symptom may overshadow the other characteristic mental and physical signs of the condition; the unhappy and bewildered child is fortunate if he does not receive repeated reproach and even punishment at school and at home for failure to accomplish that which he is entirely incapable of doing. John Spargo says in "The Bitter Cry of the Children:"

> They become discouraged by their failures, and, hardened by constant rebuke and the taunts of their brighter companions, finally careless, defiant and altogether incorrigible. In many cases they leave school before they are of legal age, their leaving welcomed and often suggested by the teachers, who not unnaturally tire of the hindrance to their work. Yet they are the very children who can least of all afford to miss whatever education they are capable of. They, more than others, need the training and development of their minds to fit them for the battle of life. How can they otherwise be expected to earn their daily bread in the competitive labor market, where dulness of brain must inevitably prove a serious handicap? and unless they can stand the test of that competition they must become paupers. Many of these children are taken away from school and sent to work because their parents say they can not learn and are better helping to pay the rent than wasting their time in school.
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> In connection with the movement for the prevention of child labor we come across hundreds of instances of this kind. Factory inspectors and physicians in industrial centers where child labor is prevalent have frequently pointed out that a very large number of child workers are quite unfit for work. They were sick and backward in school, and instead of that special care being given them which their condition demanded in order that they might be equipped for the struggle for existence, they were removed altogether from the school's influences and

1. Referred to by Dr. Walter E. Fernald, superintendent of the Massachusetts School for Feeble-Minded, in his address before the Public Education Association of Philadelphia, November, 1906.

subjected to conditions which tend to further deterioration, physical, mental and moral.

Medical inspection should be more thorough and efficient. At present it is most perfunctory and superficial. With a few honorable exceptions, the practice is to look only for infectious or contagious disease and verminous heads. Little or no attention has been given as yet to the ears, eyes, teeth, nervous and respiratory systems and general health.

Inspections by Dr. Cronin in New York are by far the most important yet made in the United States and show the importance of this largely neglected subject. When I have stood in some of our American public schools and observed the way in which medical inspections are made—as many as 2,000 children being "inspected" in ten or twelve minutes—I have with shame contrasted the farcical proceeding with the thorough and systematic work done in several European countries.

In Belgium, France, Germany, Italy, Norway and Switzerland, every child is examined every ten days—eyes, teeth, ears, general condition. Sickly children are put on special diets and given special individual medical care. There are sanatoria and convalescent homes in connection with the schools, and holiday colonies are provided. In Switzerland, poor children are frequently clothed and shod at public expense.

CONCLUSIONS.

From this superficial survey of the condition of the child in our public schools, I draw the following conclusions:

1. The school life of the child at the present day is too complex and difficult. Too many subjects for study have been introduced, and too great a thoroughness required for the young mind. This has a tendency to unbalance development and create nervous irritability.

2. In teaching large classes the personal equation is lost. The most valuable element of the teacher is showered on the bright child, while the backward or defective are frequently lost to sight.

3. Teachers who fail to recognize a defective child commit a great injury by permitting the child's mind to be unemployed. This is especially true of the depraved type of children. The children in our reform schools, the great army of the police court, chronic drunkards and criminals, the tramp, vagrants, low prostitutes, are largely recruited from this class of the slightly mentally deficient who were neglected in their youth.

4. In the gathering of classes of children of unequal capacity, the teacher fails to recognize the varied powers of attention, which is of first importance in the process of mental development.

5. The physician should take a deeper interest in watching the mental defects and having children so afflicted properly classified. The physical defects, including those of the eye, ear, nose, should receive more attention than is now given.

6. We as a profession are confronted with the appalling information that 120,000 defective school children exist in the United States.

DISCUSSION.

DR. A. C. COTTON, Chicago, thought there existed sufficient justification for denouncing the routine methods of even the best public schools. The crowding together in one room of a large number of pupils who has passed some sort of mental examination, regardless of their physical condition, he said, is deleterious. He commended the author for calling attention to the slip-shod manner of school inspection, even in the few cases in which it is even pretended. Examination for acute communicable diseases, he said, seems to be the height of the ambition of the medical school inspector. Too frequently boards have no competent medical member who could bring to their attention this most important matter. Dr. Cotton considers it the duty of every medical society that studies disorders of childhood and the hygiene of the developing period, to make itself heard in no uncertain tone. Occasionally spasmodic efforts appear, as in Chicago, when the late Dr. W. S. Christopher accepted an onerous position on the school board. This work is his monument. Perhaps, his name will be known to the public more in connection with the work he did in public schools, particularly in regard to backward children. Dr. Christopher's establishment of the sub-standard grade Dr. Cotton considered the first step in the right direction to avoid some of the events Dr. Hollopeter pointed out, namely, having one class of children held back by a few backward children. Dr. Cotton thought that the ideal school supervision will never be reached until physicians are appointed at adequate salaries to pass on the physical fitness for promotion from grade to grade of every pupil in a graded school. As to the question of extravagance, he was positive that it can be demonstrated as true economy, and for the best good of the greater number, to weed out the defectives of different grades, and place them in special grades to which they properly belong, so they may not be a detriment to others, and may not be pushed beyond their capacity for education. He believes the time is coming when honest medical inspection shall pass on the fitness of every pupil for the amount of work he is expected to do now, and for his fitness for promotion.

DR. A. W. FAIRBANKS, Boston, considered this a matter of vital importance to the child, to the parents, to the school and to the state. He stated that no adequate conception of the actual conditions in the public schools at the present time exists in either the lay or the medical mind, and, curious as it may seem, the school committees are more ignorant than anyone else in this respect. Without the slightest regard to the health or physical condition of the individual child, an arbitrary standard is established by the authorities, to which it is required that all the children shall conform or incur the stigma of being backward, greatly to the chagrin of the child and its parents. Dr. Fairbanks asked by what right do these school authorities assume a standard by which they shall sit in judgment on the mental caliber of the child? As a rule, they are individuals possessing no knowledge of the laws governing the physical and psychical development of the child. Not only do they impose these arbitrary requirements on childhood in general, but they permit the pressure and strain to bear heaviest at the age when the physical development is most rapid, and the psychical changes most profound, between the tenth and the sixteenth year. Year after year he has watched, as the school year wore on, the failing health, the fading color, the deepening lines about the face, the onset of stigmata of nervous breakdown, until in the final months of May and June it becomes a veritable tragedy to all who see and feel. Dr. Fairbanks presented briefly in statistical form the preliminary results of a critical clinical study of 50, so-called backward girls, between the ages of 10 and 16 years. These children were in the fifth grammar grade, the proper age for which is 10 to 11 years. Of this number, 90 per cent. exceeded this latter age. Of these, over 31 per cent. exceeded the maximum grade age by three years or more, one being 16 years old. Forty-six per cent. showed marked discrepancy between their apparent and their actual age, the most marked case being a child with nephritis, whose physical development corresponded to 8½ years, but whose age was nearly 12. Whereas 92 per cent. were of an age when one would expect the beginning development of secondary sexual change of form and signs of puberty, 56 per cent. showed no evidence whatever of such development. Thirty-two per cent. showed pronounced anemia; 32 per cent. spinal curvature; 30 per cent. showed a cardiac souffle (10 per cent. definitely organic); in 38 per cent. eyes were more or less defective; in 51 per cent. eyes were practically normal; in 47 per cent. hearing was more or less defective; in 52 per cent. hearing was practically normal, and only 10 per cent. showed evidence of adenoids. Only 4 out of the 50 showed definite stigmata of degeneration, a point of exceeding interest and importance. Curiously

enough, 46 per cent. showed fairly well-marked the syndrome of an essential insufficiency of the heart. In spite of these facts, Dr. Fairbanks said that the school committee this year decreased the time within which the grammar grade could be completed to eight instead of nine years. These facts, he said, show how truly great are the duties of the school physician to the backward child; but it is not the school physician alone who has a duty to perform. He urged that it is the province of every member of the pediatric section and of every member of the American Pediatric Society to take up the defense of the child and protect it from the well-intended, but illy judged, efforts of school authorities to crowd on the burden and to tighten the screws of their great educative mill, to protest against the shortening of the school course by increasing the burden of the child; to combat the ill-advised attempts to restrict the freedom of the summer rest and play by so-called vacation schools. There is no one but the physician who can do this successfully; and the time is now and the opportunity here.

DR. J. W. VAN DERSLICE, Oak Park, Ill., stated that the higher grading of the public schools to-day is largely on account of the universities calling for better students from the high schools; the high school wants better development from the grammar school, and the grammar school wants better work from the primary children. Although much has been said about defective children, Dr. Van Derslice was not very sure what a defective child is. He thinks that these very precocious children who never have an examination paper below 97 are not so well off as some of the others who never get above 75 or 80, but who have a rather regular way of going about things. The defective child, in his opinion, includes the precocious child, and the schools, he said, have made the mistake of fitting the grades to the precocious rather than to the average child. An important question in school life is how much rest and sleep should a school child have, and how much outdoor recreation, at a certain age. How many hours of school life? Physicians know that the average child, to keep up with his classes, can not devote a sufficient time to outdoor recreation. That is one of the most important points. Dr Van Derslice referred to the Chicago public school system, which is considered to be a very good one. Many of the children do not have time for any outdoor recreation if they wish to keep up with their studies.

As to backward and defective children, he said, it is hard always to make a differential diagnosis. Often an apparently defective child has some irritation, and when it is relieved the child quickly passes into the average of the class. The removal of adenoids and attention to various irritations is frequently followed by a wonderful improvement. Another question is that of public entertainments given by young children. The school teachers with whom Dr Van Derslice has talked on this subject have all said they could tell when a public entertainment was to be given in a church in the neighborhood by the fact that weeks in advance the children who were taking part were nervous and restless. One of the teachers said that in her opinion a social club was more harmful to the school children under her care than anything else, simply because of the public entertainments in which the children took part.

DR. C. E. AMERMAN, Linton, Ind., cautioned against confounding the backward and the slow children with the defective children. In Indiana there is a compulsory education law which requires that children be sent to school. Citizens are taxed for that purpose. This question of backward children, he said, is a very difficult one; more attention should be given to those slow and backward children than to the more promising ones. The public schools being overfull, the teachers find it very difficult to grade these children and place them in their proper sphere. It is a weekly occurrence for Dr Amerman to be consulted in regard to some child. To those suffering from nervous affections, eyestrain, defective hearing, backwardness and low mentality, he can give advice and help them to a certain extent, but when a parent comes with a child slow in developing and of low mentality and complains that he is not making high enough grades, it is difficult to give help. Some times the fault is in the teacher, but too often it is in the child. Dr Amerman thought that if there were some way of properly grading those children, the matter could be managed more satisfactorily, but so long as all are entitled and expected to go to public school, including the defective child, provided its mentality is not too low, the matter will remain a difficult proposition. If physicians were to undertake to handle this as guardians of the public health, it would become necessary for the state to provide separate institutions for those defective children, just the same as there is a law permitting the board to remove from the school those children suffering from chorea because of the injurious effects of association with other children.

DR. LOUIS C. AGER, Brooklyn, considered it of no great value to bring this matter before the doctors. They have already been told. What should be done is to talk to the public. It is the parents who are to direct and determine what their children are to be. The average parent has no idea whether the child is normal or abnormal.

DR. ISAAC A. ABT, Chicago, said that the essayist referred not only to those children who are palpably backward, but also to a class of children who are born normal but who become nervous in consequence of misdirected home training, or as a result of unsuitable school life. Parents need advice and direction from their family physicians in many matters that refer to the child's school life. If wise counsel were sought and given perhaps there would be fewer cases of nervousness among children. Some children are sent to school at too early an age. Some children who enter kindergarten suffer from both mental and physical fatigue. A certain proportion of children who are sent to kindergarten are harmed, not benefited. Heredity undoubtedly has a marked influence on the production of nervousness and backwardness in children. It is the old story, to cure the children one must treat the ancestors. Many parents came from humbler walks of life; they have accumulated wealth, and they desire by way of contrast to give their children a better education and more advantages than they, themselves, enjoyed. They overwork their children; they teach them French and German before they are 7 years of age; at the same time they teach them music. These children can not bear the strain; they suffer nervous breakdowns, become irritable, choreic and generally unstable. Many are backward, nervous and incapable of studying because they come from poor stock. Environment also is important. Many children are brought up in homes where they are not trained; they are practically spoiled by indulgent parents; a father who works late takes the baby from its bed at eight or nine o'clock in the evening to play with it; another parent is too strict with his child; he whips courage and truth out of his progeny. We can not change hereditary conditions, but we can offer advice concerning the environment or training if the father or mother is spoiling the child or is over-indulgent or unnecessarily severe. Many children are sent to school at too early an age and are literally worn out by too heavy burdens. It is a mistake to lay the blame at the teacher's door. Physicians do not take pains to give the subject full consideration and do not exercise the authority they really have in this matter. Dr Abt said that it behooves the profession to accumulate more tangible data so as to be able to make recommendations on the basis of well digested facts.

DR. GRANVILLE N. RYAN, Des Moines, Ia., thought that too often physicians are prone to say what should or should not be done, and then go home and do nothing. In the last year Dr. Ryan's local society appointed a committee to investigate the sanitary conditions of the schools. The teachers were not notified. The examiners went in on the pupils and found them as they were every day, and they collected dust from the schools and prepared cultures. The pupils were made to march all around the room for a few times, then the culture tubes were set about, collected and covered, with specific directions, and sent in to be examined. As the results of these examinations various recommendations were made to the board and they were carried out as nearly as possible. A number of times indolent teachers were discharged. The examiners found that in some instances the ventilators were carrying air laden with dust down to the furnace to be heated and brought

back. They succeeded in having this changed, and in having the hot air forced out and fresh air forced in and brought to the rooms. They also had physicians appointed for the various schools to examine the throats of the children when any epidemic threatened, and suspicious cases were referred to their respective family physicians. If there was any evidence of defective sight they were referred to the oculist, and if the ears were defective they were also referred to a specialist. The teachers in these various schools have always been very glad to meet with the examiners and discuss these different questions and determine which children should have special care. Dr Ryan thought that if physicians would improve their opportunities and bring this matter before the various school boards it would be productive of good results.

DR. SAMUEL W. KELLEY, Cleveland, Ohio, speaking of the relation of the physician to defective children, and what is to be done in the matter, narrated what has been done in Cleveland. Complaint was brought by a citizen that his child was not being fairly treated by the teachers in the public school. The physicians who were in touch with the conditions thought something should be done; a committee of physicians was appointed by school authorities to look into the matter as to whether there were enough defective children in the schools to justify appropriating money from school funds to take care of them separately from the brighter ones. This committee proved to the board that it was necessary. The plan was to get at some practical way of forming special classes in each school building rather than to have one large building apart from all the other schools. The children were selected by examination, only taking note of obviously defective cases. These special classes must be presided over by teachers specially trained for this work, six or eight pupils being enough for one teacher. This plan has been going on now for nearly three years, with very great satisfaction. The teachers who have the normal pupils are better satisfied, and so also are the parents of the defective children. It is necessary, however, to call these "special classes" on account of the prejudice of the people toward calling them "idiot classes." The objection which was at first raised has subsided, and the people do not dread sending their children to the "special classes;" they find it much better. It has relieved the state institution, which is overcrowded (as is also the case in many other states), and enables them to do better work with those who can not be benefited by any school near home; and in this way the plan will work beneficially to all concerned. The people at the same time are getting educated to classify children as to mental capacity, to individualize, to recognize backward and defective children—not to consider them as equally bright or else idiots.

DR. H. W. ORR, Lincoln, Neb., agreed that it is quite important to designate these children as backward children rather than to call them feeble-minded. Recently he has been impressed with the fact that in dealing with these children it is necessary to individualize. They can not be dealt with in classes or groups, but must be trained and educated as individuals. Physicians, he said, should attempt also to make clear to teachers the conditions that determine the necessity for dealing with a child in this way. If teachers understand these cases they can always be persuaded to carry the matter to the parents and so solve these difficult problems most intelligently. Until the education of children, especially the backward and defective ones, is individualized to a greater extent than at present, one can not hope to accomplish much along this line.

DR. FRANK S. CHURCHILL, Chicago, stated that there is much that is defective in the present system of education, but on the whole, it seems to him that the schools are better than they were twenty years ago. The improvement is in two directions, paying greater attention to the physical development of the child and making more of an attempt to individualize in their training. In regard to the physical side, it is not given as much attention in some public schools as it should have, but in some of the larger private schools the method is carried to a very high degree of perfection. An illustration cited by Dr. Churchill was the Francis Parker school of Chicago. This is a private school, and, perhaps, not germane, although it is merely a question of time, he said, when the methods used there will be carried out in the public schools. In this school every single child is given two complete examinations yearly, elaborate physical measurements being taken both at the beginning and end of the school year. A full report is sent to the parent, and if the parents see fit, they consult their attending physician. If there is any special defect in a child, it is given special gymnastics to correct this. The teacher in physical training may go into the Latin class and say, "This boy, Jones, is defective in such and such a way; he must give up a certain amount of time in Latin and come to the gymnasium for corrective work." With regard to individualizing, the same care obtains there. The classes are subdivided into groups; in each group there may be two, three, four or five children, and the teacher has an opportunity to study each child. Dr. Churchill was much surprised at the accurate knowledge that not only the teachers but the principal of the school have shown. The principal showed the most remarkable knowledge of a certain child, though she had never taught her. Thus in the matter of individual measurements in the best private schools, some excellent ideas are being carried out. It is merely a question of time when the public at large will find it is possible to do this, and they will insist that more money be spent on public schools. Each teacher should have fewer children and pay more attention to these individually. Dr. Churchill agreed with Dr. Van Derslice that entertainment out of school is a pernicious practice. The children, however, are bound to have these entertainments in some way or other, and the thing to do, he said, is to have them in school.

DR. W. C. HOLLOPETER, Philadelphia, thought that physicians should be put on record as favoring some medical regulation of the school life of the child, and to inject into the public some ideas how to regulate it. The schools are not necessarily reformatories. The teachers have to accept scholars and the parents have as much, probably more, to do with them than the teacher. In other words, the environment has to be eliminated. Dr. Hollopeter urged giving less attention to the precocious child so as to give more chance for the physical unfolding rather than the mental development of such a child. He thought that by going back to the old curriculum of twenty years ago, and then adding additional time for physical development, the result would be a more normal child. A good bit of this viciousness, this irritability, etc., he said, is attributable, of course, to the mother.

THE GREATEST MENACE TO WHOLE MILK IN CITIES' SUPPLY.*

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The terms employed in a definition of milk vary with the view point of the scientist and the phase of the subject emphasized. For the present purpose the following, gleaned from various sources, will answer every need: Milk is a normal animal secretion forming a perfect emulsion and containing, besides fat globules in suspension, albumin, sugar and salts in solution, caseinogen in partial solution and certain ferments. Except for the one which produces lactic-acid fermentation, comparatively little is known of the ferments of milk.

The importance of these ferments is very great. Two classes seem apparent in recently drawn milk: Those expending themselves directly on the milk, and those relating more especially to the intrinsic food value of the milk. The latter speak of the kinship between milk and normal coursing blood, of which it is the most direct of all products.

These ferments are of delicate organization and, like

* Read in the Section on Diseases of Children of the American Medical Association, at the Fifty-eighth Annual Session, held at Atlantic City, June, 1907.

all bodies of the class, are easily influenced by external conditions. They give to milk freshness, sweetness, virility—essential qualities quickly altered by unfavorable surroundings. Without these ferments more or less intact, milk is not whole milk, however pure it may be or however skilfully it may have been pasteurized.

In the past the cry was for pure milk; at a later day it was for sterile milk, but to-day the demand is for *bona fide* milk, for whole milk. So ancient an observer as Peter, the Apostle, referred to the desire of babes for the "sincere milk." That desire they never once lost from the remotest ages to the present time, although in the wandering of science that fact was lost sight of. Sincere milk is whole milk, milk whose integrity and food value remain untouched by age, science or knavery.

"Sincere" is an apt term to apply to milk. It is derived from two Latin words, *sine* and *sera,* and means without wax, the term having been employed originally in the crusade against adulterations in honey. Whole milk is sincere milk and only sincere milk is whole. Whole milk is as natural and definite a product as sirloin steak. Any deviation from its natural quality is irregular and inexcusable. Behind every gill of such milk offered for sale there is at least one culpable person.

In the recent crusade against impure food a term had to be coined to distinguish regularly distilled and ripened liquors from those produced in the laboratory by a process of blending. The term adopted is "straight"—all brands not properly coming under this head being by implication crooked. Whole milk is straight milk—milk about which there is no crookedness at all. Milk which is not whole is crooked milk—milk trifled with by ignorance, carelessness or dishonorable design. Whichever be the cause there is somewhere a real offender, somebody chargeable for the crookedness. That no serious charges can be made against a specific batch of crooked milk is no legitimate excuse for overlooking the offense or dealing leniently with the offender.

In proper legislation and eternal vigilance alone is safety found. What has been gained by our cities comes from the operation of these factors. In no other fields are results more encouraging. Again and again have students of the subject marveled, not that the quality of the milk supplied is not better, but that it is so good as it is.

In any large city the reception and distribution of the milk needed is a gigantic scientific proposition. For example, some of the New York City milk comes from dairies 400 miles away. In Philadelphia the work for just one day entails the handling of over 300,000 quarts of milk.

The popular demand for more facilities and greater dispatch in railway transportation has already gone a long way in solving this phase of the milk problem. Transportation may be said to be capable of taking care of itself. Still the question arises, are all the forces at present in operation equal to the most modern of emergencies? Is the present demand one for more legislation, or rather for education and dogged agitation? We hold emphatically to the latter.

Menaces to whole milk that were once so vital are now largely matters of history. This was brought about chiefly by improved transportation, the increased employment of ice, introduction of simple milk tests and education on the uses, abuses and excuses of milk preservatives. The ill-famed dairyman's pump may be said to be out of the race for highest notoriety. Chalk perhaps never had anything but an imaginary existence as a milk adulterant.

But there are menaces to the milk supplies of cities which are not visionary, but real and vital. These may be classed as commercial and laid to the door of the middleman, the jobber, the milk broker, the man of huge commercial schemes. His kinsman in the rural district is the operator of the large creamery. But whether here or there, his aim and purpose is one and the same, namely, to buy up all the milk he can find and sell it anywhere by whatever methods will net the largest returns. As for scruples—there may be none to figure on.

The stringent laws against the employment of milk preservatives have taken from the hands of this unscrupulous fellow a cheap and most effective expedient for leisurely marketing his wares irrespective of their quality. As a result he has fallen back on the more expensive process of pasteurization. This is now unfortunately too much in the limelight of popular opinion. Whatever may be said justly in favor of pasteurization for immediate use as practiced in families and special plants, nothing can be said to the credit of milk pasteurized on a commercial scale to facilitate distribution and sale. The process does not remove the germs it destroys; indeed, does not destroy those of greatest danger, and only facilitates subsequent infection and contamination should the opportunity arise.

Another menace which it is to be feared is gaining in magnitude and which must be met in the open sooner or later, is the shipment to the city of "creamery skim" side by side with whole milk. Until somewhat recently this business could not be conducted with profit. The establishment of large creameries led to large quantities of skimmed milk, but it required the perfecting of machinery for pasteurizing on a large scale and the present general confidence in pasteurization to open a city market for this waste product of so many creameries.

To what extent this product is shipped into Philadelphia can not now be ascertained, since no separate record is made of skim milk received. To my personal knowledge one of these creameries ships the entire product, amounting to over 2,000 quarts a day, and always has orders that can not be filled.

The plan pursued is this: After the milk has passed through the separator and been deprived of all its cream the "skim" is passed through the pasteurizer. Here it is heated to 155 degrees F., as it flows onward to be immediately cooled, and put into 40-quart shipping cans and iced up ready to be sent to the city on the following morning. Ice is not used on the milk train.

It will thus be seen that milk which was collected last night was creamed and the "skim" pasteurized this morning ready for shipment to-morrow morning. Sunday shipments are made as on week days.

Here, then, is perhaps the newest, if not the greatest, menace in the cities' milk supply. From the viewpoint of the middleman this "skim" may be defined as a milk of sufficient "body," uniformity and quantity to permit of milk blending. Combination with a whole milk of extra rich quality, in proper proportions, makes a fair to good medium which meets every legal requirement and is not easily detected.

The purpose of this paper is not one of general condemnation of milk and milkmen on positive knowledge of but one creamery that is now shipping "skim" into the city, but simply (1) to plead for whole milk for the infants of our city, (2) to lament that so fair a house-

hold process as pasteurization should so deter the crusade for whole milk, and (3) to direct due attention to the menace of the prolific creamery swill tank—pasteurized skim.

580 Federal Street.

CERTIFIED MILK AND THE GENERAL MILK SUPPLY OF LOUISVILLE.*

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Milk is the most universally used commodity in every community, and the problems which confront the sanitarian in providing a city with a clean milk supply are many, varied and complex. The enormous mortality among infants during their first year of life is sufficient evidence of the importance of this subject. Harrington[1] gives some very convincing statistical data, and Straus, of New York, gives the percentage of deaths during the first year as 32 per cent. of the whole number of births. Hence we believe that the consideration of this question by the members of this section will be productive of great good to all.

Louisville has just passed through a wave of milk reform which has resulted in a great improvement in its supply, and we do not believe that the results can be surpassed by any city in the country.

To emphasize the necessity for reform it need only be said that the condition of the dairies in and around Louisville beggared description; they reeked in filth, the barns were most insanitary and foul and the cows diseased and dirty. Yet milk produced under these conditions was being sold and consumed and our infant mortality kept up.

This appalling condition of affairs was due to the universal use of distillery slop, or swill, as a food for these dairy cattle. The large number of distilleries on the outskirts of the city, with a thousand barrels of slop to be disposed of daily, caused a number of dairies to be established in the city limits and on the outskirts. Scrub cows, lean and often sick, were purchased in the fall and fed for from three to five months on distillery slop, the milk being sold as a by-product. The ultimate object of all the dairymen was to fatten the cattle for sale as beef later in the spring. Although there were ordinances on the city statutes specially prohibiting the sale of milk produced from swill-fed cows, the practice went on unabated.

Louisville has been slow to wake up to the needs of its health department and it was not until five years ago that the present efficient health officer, Dr. M. K. Allen, obtained sufficient appropriation for the establishment of a laboratory in connection with the department. Prior to this time, although the law prescribed the chemical standard of milk, there was no method by which the department could have the proper examinations made. Being greatly interested in the milk question, I frequently made the Babcock test for the department during the term of office of the predecessor of the present health officer, and on the strength of these examinations a few prosecutions of offenders against the chemical standards were instituted. Since the establishment of the present laboratory in connection with the health department, and frequent prosecutions, the addition of water and preservatives to milk is practically discontinued, but the feeding of swill kept on.

I am firmly convinced that good milk can not be produced from cows fed on distillery slop, hulls, screenings, wet or dry brewer's grain or sour ensilage. I have frequently seen milk produced from swill-fed cows cause serious disturbances when fed to infants, while milk from cows properly fed would agree perfectly. Milk from swill-fed cows has an appalling bacterial content and is hyperacid.

Those of you who have never visited a dairy barn, inhabited by cows fed on this slop, can not realize the conditions presented. It takes a barrel of swill a day to give a milk cow the equivalent of a properly balanced food. This very quickly causes an almost continuous diarrhea, the discharges being very acrid and foul. The cows are kept tied in their stalls practically continuously, and when turned out it is in a sea of liquid manure, as a rule. The barn reeks in liquid manure, the cows' flanks and udders are caked with liquid manure, the walls are spattered and the mist arising on a cool day from cows, floors and walls wet with the manure will make it impossible to see clearly at a distance of fifteen feet. The odor is foul beyond description, and in this atmosphere the cows are milked, by dirty milkmen, in dirty, uncovered pails, which are emptied in dirty, uncovered cans standing in the corner of the barn. This milk is not cooled in winter or summer and is either retailed from a wagon, drawn in measures from the large cans, or bottled from the can in front of the customer's residence. These facts are not exaggerated, and such milk was sold to Louisville infants and invalids until April 1, 1907.

The public is largely to blame for this condition of affairs. As Coit says, however, "ignorance and greed in those engaged in the production of milk prevails and its delicate nature is disregarded in the commercial expedients for its sale." A clean and cold milk can not be produced as cheaply as a dirty and contaminated milk, and the public, Harrington says, "prefers milk, plus cow-dung, at 8 cents a quart, to clean milk, not so flavored, at 9 or 10 cents."

The production of milk from swill-fed cows was made possible by the existence of a Dairymen's Protective Association, organized to defend in the courts any action brought against the feeders of swill. That an amusing, though serious, condition existed was developed during the investigation, to be referred to later, in that the attorney for the dairymen's association was also the Louisville attorney for the State Board of Health and the State Pure Food Commission. Prosecutions were instituted, but, as was to be expected, convictions could never be obtained.

In 1891 I realized that a pure milk supply for babies could not be had through the ordinary channels, and in a paper in a symposium on milk before the Louisville Academy of Medicine, the late Dr. J. A. Larrabee, an ex-chairman of this section, also taking part, I suggested the appointment of a milk commission, under whose auspices a certified milk could be produced, but the plan did not meet with favor and was abandoned. About five years ago, still convinced of the practicability of the plan, I advocated it again before the Pathological Society. A commission was appointed by this society, but not receiving the support of the other members, who did not think the plan practical, it was again abandoned.

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* Read in the Section on Diseases of Children of the American Medical Association, at the Fifty-eighth Annual Session, held at Atlantic City, June, 1907.

1. Boston Med. and Surg. Journal, Feb. 1, 1906.

I then endeavored to interest the State Pure Food Commission in the general milk supply of Louisville. Later, on a request from the local health office, an active investigation was begun by Mr. R. M. Allen, of Lexington, assisted by a most intelligent and thorough corps of assistants. They began work two years ago, and at the July meeting of the Jefferson County Medical Society, a symposium on milk having been arranged, Mr. Allen made his preliminary report. A most disgusting and dangerous condition of the dairies was shown, illustrated by a number of photographs. One hundred and one dairies were inspected, containing 2,800 cows, these supplying 5,031 gallons of milk, some direct to the consumer, some to the retail milk dealer. At 67 dairies, distillery slop was fed to 250 cows, producing 1,600 gallons of milk, and the condition of the barns and cows and the method of handling the milk was as outlined above.

At the conclusion of this meeting, on my motion, a committee was appointed to consider the practicability of having milk produced which could be certified as to its purity and which could come up to the proper chemical and bacteriologic standards and be produced and handled in a scientific manner. This committee reported at the next meeting that the plan was practical and urged the appointment of such a commission, that at least one milk supply could be obtained which could with safety be fed to infants and invalids. The committee was appointed as the first commission and it at once set to work to find a dairyman who would come up to the requirements. The society pledged its support to the commission and to Mr. Allen in his efforts to have a betterment in the general milk supply of the city.

With all of his data at hand, on the completion of the inspections and with the active and intelligent cooperation of Mr. Robert W. Bingham, county attorney, Mr. Allen brought his first prosecutions against the swill feeders in the court of County Magistrate Hollis. Every member of the Dairymen's Protective Association was cited to appear; they were prosecuted and each confessed judgment of $100 fine and fifty days in jail. On an earnest plea to suspend sentence until April 1, to give them an opportunity to clean up and to allow their contracts for swill to expire, the sentences were suspended until April 1. On April 1 a thorough inspection of the dairies on the black list was made by Mr. Allen, representing the Pure Food Commission, and representatives of the county, city and state health departments. Out of seventy dairies examined, eight were found with no attempt at cleaning up and the practice of swill feeding continued. They were cited to appear to show cause why sentence should not be imposed. All but one stated that they would either sell their cattle at once and quit the milk business or they would at once discontinue feeding swill and clean up. This one was placed in jail and the others were given a week to carry out their promises.

This fight has been gone into in detail because it is the history of a fight to save lives of thousands of babies exposed to disease and death because of an impure milk supply. It was a fight of organized distillery interests, with slop for sale, an organized dairymen's association under contract to feed this swill, and political interests beyond finding out, against the law and an aroused public sentiment against the practice. Public sentiment in favor of pure milk is difficult to arouse, but the demand is slowly increasing. It is the majority of people in a community, however, who have no concern as to their milk, save that it does not sour in twenty-four hours and contains a fair percentage of cream, that the law and competent inspection must protect.

We are proud to say that to-day not a gallon of swill is being fed to dairy cows which supply milk to Louisville. It is true that there remains much to be changed in the methods of handling milk, for they are far from perfect at any of these dairies, but with the chief factor in the contamination at an end the possibilities are great for a permanent improvement in the supply. I believe the time will come when it will be illegal for any milk to be shipped which has not been bottled and sealed at the dairy. With the bottling at the dairy and the free use of ice great harm can be averted.

Another serious problem confronting us is the question of inspection of dairy cattle. Unfortunately, in Kentucky, the veterinary profession is not legally recognized, and there is no way to get at the charlatans and politicians among them. This, we hope, will be rectified at the next session of the legislature. The city requires regular inspection of the dairies and herds supplying milk to the city, but this inspection is a mere farce, as was stated by two veterinarians in attendance on the meeting of the State Veterinarian Association in Louisville recently. One man stated that "inspection of a dairy herd was easy picking; all that was necessary was to drive up to the fence, hail the dairyman, inquire the number of cows in the herd and write his certificate, receiving therefor 25 cents a head;" another said he "frequently took a pleasure drive in the country and picked up ten or fifteen dollars by inspecting herds while out." No wonder the dairyman has so little respect for the law when he is confronted each month with such wilful violation of it by supposedly honest men. The basis of good milk is a healthy herd, and unless there is honor among veterinarians this needed adjunct to obtaining a pure supply can not be had.

The question of tuberculosis among dairy cattle is a most serious one. The tuberculin test is so certain in its effect and so easy of performance that it should be more generally used. This will not be accomplished, however, until there is a state law whereby the owner of a condemned cow can be recompensed, in part at least, for the loss of his cow slaughtered under the tuberculin test. Steps are being taken now toward the preparation of such a bill to be introduced at the next session of the Kentucky legislature, with every hope of its passage, and an educational campaign has been begun among the farmers of the state to cause them to look on the bill more favorably.

The importance of the elimination of tuberculosis from dairy cattle has been brought forcibly to our attention in the report of the Commission on Tuberculosis from the British Medical Association, on the communicability of animal tuberculosis to man, and the confirmatory report of the investigations of Drs. E. C. Schroeder and W. E. Cotton, of the Bureau of Animal Industry of the Department of Agriculture at Washington. They state that "fresh tuberculous material has the highest, and dried and pulverized material a doubtful, significance," and that "man is constantly exposed to fresh tuberculous material in a helpless way through the use of dairy products from tuberculous cows and cows associated with tuberculous cattle." That tuberculosis is very prevalent among dairy cattle in Kentucky is evidenced by the following figures, the results from tests made by Dr. F. T. Eisenman, state veterinarian, Dr. W. E. A. Wyman, of Covington, and Dr. D. A.

Piatt, of Lexington. Dr. Wyman reports 109 tests with tubercular reaction in 69, a percentage of 63; Dr. Piatt, 80 tests, 25 reactions positive, a percentage of 31, and Dr. Eisenman reports 30 per cent. of all cattle tested have responded. The herd of the State Hospital at Stockton, Cal., showed a marked prevalence of tuberculosis, in every instance the autopsy findings bearing out the reaction.

I witnessed the slaughter of two cows condemned as tubercular after the test, whose milk had been sold in Louisville only the day before. One of these cows showed an enormous cavity in one lung and a tuberculous udder, the other a well-marked mesenteric tuberculosis. With a competent law, intelligently administered, tuberculosis among dairy cattle can soon be eradicated.

It might be asked, "Why not pasteurize the whole city milk supply?" This question, I believe, has recently been discussed in New York City. In my judgment, it would be impossible to pasteurize the entire supply of a city, as there are so many sources of supply and so many small dealers who distribute the milk coming into the city. I believe that milk when pasteurized is so changed in its biologic, life-giving properties as to make it unfit for infant feeding any length of time. Clean milk is infinitely better than a cooked milk. Like Dr. Brush, I believe that pasteurization of milk should cause it to be classified with canned foods which come under the head of embalmed beef, minus the chemicals, and that the Pure Food Commission should take the matter under advisement. Why infect milk with cow-dung and then kill the bacteria by pasteurizing? Another factor not generally thought of in connection with this question is that pasteurization lulls one into a belief that milk so treated is rendered good in spite of the manner in which it is subsequently handled. Pasteurized milk must be cared for with the same precision as clean cold milk to prevent further infection.

What has been said goes to prove that the problems involved in the production of a pure market milk are difficult of solution. Eternal vigilance, elimination of politics, a well-equipped laboratory, with a competent head to that department, veterinary inspection, proper laws and ordinances, education of the public and a public demand for pure milk, milk commissions, and education of dairymen, soliciting their cooperation rather than their antagonism, may produce a fairly good supply. However, it can not be too forcibly impressed that there may be adequate laws governing chemical standards, etc.; no good will be accomplished until inspection can be carried to the dairy, there to include regulation of everything pertaining to the herd, feed, production and handling of the milk and its shipment and handling until it reaches the consumer.

Milk which is properly produced can not be sold at a figure which will not work a hardship on the poorest classes, and to put milk within their reach at a nominal sum the milk dispensary is a great philanthropy. It is far better, however, to furnish these dispensaries with an inspected, clean milk, rather than endeavor to render harmless an infected milk by pasteurization or sterilization. If moneyed men and women in every community would establish or place the means at the command of a milk commission, to establish these milk dispensaries or depots, where inspected, clean and cold milk can be had at a merely nominal price, the mortality among the infants of the poorer classes will be greatly reduced.

It is to the milk commissions, composed of doctors, disinterested financially, representing their county medical society, or its equivalent, that we must look for a limited supply of pure milk for infants and invalids. Too much can not be said in praise of Dr. Henry L. Coit, who first suggested the possibility of producing a milk which could be certified as to its chemical and bacteriologic purity and first put the scheme into practical operation. The organization of the medical milk commissions in Louisville at this time is to be commended, and we believe the good work they have done will be rendered more uniform and similar commissions formed at many other points.

The milk commission of the Jefferson County Medical Society, of which I am a member, has done a good work. This commission issued its first certificate Sept. 1, 1906, this dairyman beginning with fifteen gallons a day. It is now certifying to the product of three dairies, this being delivered by two firms, one of which handles only certified products.

The rules of the commission are not too rigid, yet the results will compare favorably with those of other commissions. All cows must be healthy and tuberculin tested; the barns clean, with concrete floors, properly drained, well lighted and ventilated; walls whitewashed or painted with sealed ceilings; the milkers healthy and clad in clean white suits; the use of the Gurler milk pail; the milk cooled and aërated to 46 degrees fifteen minutes after milking and bottled and sealed at once and kept at this temperature until delivered to the consumer. The butter fat must be between 3.5 per cent. and 4 per cent.; the total solids not less than 12 per cent.; the bacterial count of milk not more than 10,000 per c.c., and of cream not more than 15,000 per c.c. But few times since issuing the first certificate has the count exceeded the limit, and each time some error in technic could be found on investigation. Once the count of one dairy reached 27,000 per c.c., and, taking this into consideration, the average count for twenty-seven consecutive days was less than 10,000.

Mr. Clarence B. Lane, of the Department of Agriculture, at Washington, recently examined one of the dairies and gave it 99.4 out of a possible 100 points.

With all of this we are not satisfied, our aim being to bring the entire city's supply as near perfection as possible.

In this connection I wish to call attention to the notable gathering, held at the St. Charles Hotel, Atlantic City, N. J., on June 4, 1907, when the American Association of Medical Milk Commissions was formed on a permanent basis. Twenty-five milk commissions were personally represented, and every one on the program was present with his paper.

The admirable work of Dr. Coit, fourteen years ago, is now bearing rich fruit. It was an inspiring sight to see so many of the foremost scientists in the country, with the altruistic purpose of benefiting the health of the community and reducing our infant mortality by improving the milk supply. With the formation of this national body, the work of the commissions generally will be standardized, chemical and bacteriologic methods and standards equalized, missionary work in undeveloped territories is made possible, and the furthering of the movement and formation of new commissions on a sound basis encouraged. Printed reports of this meeting of the commissions have been ordered by the council and a closer federation of all will be had.

I earnestly urge the serious consideration of the question of medical milk commissions in all cities, their ap-

pointment and support by the county medical societies, and the improvement of at least one milk supply for clinical purposes. By such a course, by example, an improvement in the general milk supply will certainly follow and great good to the infant population of every community obtain.

Correspondence with the secretary of the national body, Dr. O. P. Geier, Cincinnati, is urged on those interested in the question.

DISCUSSION

ON PAPERS OF DRS. MC ALISTER AND TULEY.

DR. THEODORE LE BOUTILLIER, Philadelphia, insisted that it is time that medical men should decry the wholesale pasteurization of milk; for, in the large cities at least, pasteurization is anything but cleanly—the milk goes in in bad condition and when it comes out it is infinitely worse, sometimes containing three times as many bacteria. The can, as a rule, is not clean. The milk is made worse in every way. It makes the people at large have more faith in the milk when it is certainly not so good and not so healthful for the infants. Pasteurization, if necessary, should be done at home. As a rule, in pasteurization plants the milk simply passes through coils of heated pipes for two minutes and is then said to be pasteurized. In Dr. Tuley's paper he commended inspected milk because this is something that is needed. The poorer classes can not pay 14 to 18 cents a quart for milk. This will be of much benefit, particularly in dispensary work, and it will also help to educate the people at large, and later those who can afford it will pay more for the certified milk.

DR. G. LLOYD MAGRUDER, Washington, D. C., said that this subject was agitated recently in Washington in a manner which, he thought, will bear fruit for the country. The District Commissioners invited, for the purpose of conferring on the milk supply, a number of leading citizens, including representatives of the various departments of the government and members of the medical profession and other scientific societies. This committee of about 100 was divided into various subcommittees, including one on infant feeding and another on the sanitary condition of the milk supply. The Committee on Infant Feeding unanimously recommended the use of certified milk for children under 3 years. This milk was to be subjected to most rigid inspection by the health officer. The Committee on the Sanitary Condition of the Milk Supply recommended repeated careful inspection of the conditions at the farm, this inspection to include the health of the people, the character of the barns, the water supply, as well as the condition of the cattle, the methods of transportation and the reception and distribution of the milk in the city. From the information obtained the committee recommended that milk should be divided into three classes: (1) certified milk, (2) milk from tuberculin tested cows to be produced under careful sanitary conditions not as exacting as for certified milk and to contain not over 100,000 bacteria to the c.c. when delivered at 50° F., (3) milk from all other sources. From this third class certain milk was excluded. On account of the quality of this third class, compulsory pasteurization was advocated under the supervision of the health officer, preferably in a central plant. The futility of pasteurization without skilled supervision was fully appreciated.

DR. R. B. GILBERT, Louisville, Ky., stated that Dr. Tuley deserves great credit for what he has assisted in achieving toward getting pure milk in Kentucky. Dr. Gilbert has made some personal observations of these various dairies and found conditions appalling. In addition to foul odors, there were the mud and filth surrounding the cows, and in the summer myriads of flies drop into the milk supply. But there has been a great improvement under great difficulties. One of the Board of Aldermen of Louisville who is manager of a large distillery upholds strongly the ordinance prohibiting the feeding of slop to the cows, the idea being that the source of supply is essential to getting wholesome milk. The cow must be healthy, and the surroundings where the milk is obtained and handled must be sanitary. This being done, he said the question of pasteurization would be retired to the rear.

DR. L. C. AGER, Brooklyn, N. Y., mentioned one point that had not been touched on, and that is, what is to be done about country milk? It is a fact that it is often easier to get good milk in the city than in the country, and a child is sent to the country to better its condition, and it becomes worse. It is almost impossible to get good milk in the country. It is a poor grade of milk. The fat percentage is low—even in a grazing country anywhere near large cities—the best milk goes to the city, the poor milk is sold in the neighborhood, and it is a serious menace to the health of the infants. In New York, he said, the use and sale of skim milk is strictly prohibited.

Dr. Ager agreed with Dr. Tuley on one point, and that is that public opinion is difficult to arouse. He finds that public opinion is aroused easily if it is done in the right way. Public opinion can not be aroused at a physicians' meeting; it must be done at a public meeting.

DR. ALFRED FRIEDLANDER, Cincinnati, said that the formation of the Cincinnati commission was rendered more difficult because three-fourths of the dairies were slop-fed dairies, and the conditions were practically as Dr. Tuley described. Efforts to prohibit slop-feeding were rendered nugatory by the distillery interests, which were powerful enough, through political agencies, to head off the attempt. The commission had to work from the standpoint of education. The commission has been certifying two grades of milk: first, a certified milk, and, second, an inspected milk. This inspected milk is received with great favor by the public. The requirements for inspected milk are practically the same as for certified milk except the bacteriologic standard. For the past four months the milk has conformed in every respect to certified milk. Another point of value, Dr. Friedlander said, is the inspection of bulk milk for the use of hospitals and public institutions. The Cincinnati commission now issues certificates to dealers for hospitals and institutions shipping milk in cans the same as for inspected milk. The commission cherished the hope that at an early date, through the agency of one of the large charitable institutions, it will directly supply the poor with this better grade of milk.

DR. T. W. KILMER, New York City, pointed out that even when clean milk is delivered at the house the people must be instructed how to take care of that milk. The mortality proposition, he said, seems to consist of clean milk and instruction to the people how to keep it clean. This is especially true in the lower classes. Boards of health, especially in New York, have done a great deal to lessen mortality, but, he said, the instruction of the Board of Health should not be spasmodic during the summer months, but should be continued during the winter months, so that when summer comes the mothers will know what to do.

DR. THOMAS S. SOUTHWORTH, New York City, stated that in the city of New York there has recently been a strong movement for pasteurization of the entire milk supply other than that certified by the County Medical Society. The sources from which this demand for pasteurization of the entire milk supply came were three in number: (1) Those who conscientiously believed that the pasteurization of milk is even more of a life-saver for infants than its modification; (2) those dealers who were planning to put out pasteurized milk in large amounts, and (3) the manufacturers of pasteurizing machines. All of these groups were represented strongly in the series of meetings before the aldermen and pushed the matter actively, although not always under their true colors. To show how imperfectly the question was understood, Dr. Southworth cited the case of one of the gentlemen who introduced one of these measures which should make it obligatory to pasteurize the entire milk supply. He was asked during the discussion what would happen provided a can of pasteurized milk was left open and dust blew into it. He hesitated a moment and then said he believed that germs did not grow as well in pasteurized milk as in raw milk, showing what misconceptions exist in the lay mind. There is one thing, Dr. Southworth said, which must be differentiated clearly in discussion, and that is the difference between the pasteurization of milk before it is sent to the consumer and the pasteurization of infants' bottles after all manipulation of the milk has been completed.

DR. CHAS. K. JOHNSON, Burlington, Vt., said that a short time ago, at a meeting of the county medical society and dairymen and milk dealers, the production of certified milk was discussed, and all the dairymen seemed anxious to help in the work.

DR. W. G. MURPHY, East Hartford, Conn., cited cases of interest recently in his section of the country. The first was that of a cow which reacted to the tuberculin test and was killed. At the autopsy no evidence of tuberculosis could be found in lungs, glands or mesentery. It was not until the udder was opened that the cause was discovered; there, adjacent to and almost immediately attached to a milk duct, was a large abscess containing something like half a pint of pus. It is not necessary, he said, to go very far to see the result if this abscess had broken while the animal was being milked. The second case was one of a cow sold by a dairyman to a butcher. The cow was in such miserable condition that she fell on the way. The man who had her in charge was arrested for cruelty to animals and convicted. The cow, on examination, was found to be tuberculous, the lungs diseased, an abscess gathering in the liver, and an abscess in the shoulder. That cow was milked up to the day she was sold. She was sold for $7.

The question is, how can such things as these be avoided? Dr. Murphy thinks that the only safeguard for physicians who are using milk for infant feeding is certified milk or milk controlled by the milk commission.

DR. ELIAS H. BARTLEY, Brooklyn, N. Y., suggested taking a definite stand on this question of pasteurization. While the education of the public is desirable, and while it is going on rapidly, medical men must be a little bit cautious as to what direction they educate the public. In New York this winter it was suggested to force pasteurization of the whole milk supply at enormous cost and questionable benefit. It required a great deal of argument to prevent this resolution being adopted. Certain financial interests behind it came very near forcing it through. There was at that time no unanimity of opinion among the medical profession as to what was best to be done. A few physicians who appeared before the Common Council at the hearing opposed it on the general ground of injury to the milk, and yet they were somewhat timid in saying that pasteurization is not a good thing. Dr. Bartlett thought that the District of Columbia has come pretty near settling something definite, classifying milk. He considers it very desirable to classify the market milk and then pasteurize that which is below a certain standard. But, he asked, who is to classify it? It can only be done by inspection of the dairies. If this can be made practicable in large supplies, it may solve the difficulty. Dr. Bartlett is willing to admit that it would be best to pasteurize all the dirty milk, and by so doing advertise that pasteurization is simply an apology for dirty milk. He thinks that one of the greatest benefits of the milk commissions to the community has been the education of the public, the education of the milk producer and the consumer. This has already shown great results.

DR. C. WM. BROWN, Elmira, N. Y., regretted that there is not a greater unanimity of opinion among the men who have paid special attention to this subject. The day before, at a symposium on tuberculosis, speaker after speaker demanded pasteurization of all the milk to get rid of possible danger of tuberculosis. This body, largely interested in feeding children, protests against the universal pasteurization of milk; so that it seems that the medical profession, as a whole, has no ideal. Is the ideal, he asked, pasteurization of milk to kill a certain number of bacteria and germs of tuberculosis, or is the ideal to get rid of tuberculous cattle that there may be no possible infection from that source? For this reason, while the work of physicians in Louisville and other cities is to be highly commended, it has always seemed to Dr. Brown a matter of great importance to get at the source first. In cities the size of Louisville, he said, there is no reason for having third class milk. There should be good milk and bad milk. Milk from tuberculous animals should not be sold.

DR. J. W. VAN DERSLICE, Oak Park, Ill., sounded a note of warning about the selling of pasteurized milk. The first and second grades, he said, are sold to those who can afford to buy them, and the third grade is sold to the poorer people and those who have the least idea of bacteriology. If physicians approve of pasteurized milk, in the minds of many in the large cities it will mean that something has been done to the milk by which no harm can come from using it, and they will not give it the care necessary to keep it from contamination.

To the lay mind it will be all sufficient that it was pasteurized. This, coupled with the fact that because of the destruction of the ferments by the heat the milk will not, by any physical change, show the harmful effects of contamination makes it possible for great harm to come to those physicians are striving to protect.

DR. L. BOORSE, Milwaukee, Wis., agreed that there can be no question about the value of certified milk, but, he said, this is not available to all consumers. With a view of improving the general supply in Milwaukee, an ordinance was recently passed requiring the testing for tuberculosis of all cows from which the milk supply of the city is derived. The Health Department sends inspectors to the dairies to ascertain the sanitary conditions before a license is issued. The milk is examined both chemically and bacteriologically, and the health officer has the power to revoke the license of dairymen who do not meet the requirements as regards the quality of the milk or the sanitary condition of the dairy.

DR. R. M. MERRICK, Boston, Mass., said a word in favor of the recognition of inspected milk. A milk commission in Boston of which he is a member has been inspecting farms with regard to the general hygiene and the cleanly care of the milk, and has been recommending the clean and careful producer. The recognition alone of certified milk by a milk commission at present means a very limited supply of high-class milk at a greatly increased price. With the recognition of "inspected milk" physicians get a large supply of clean milk at a moderate increase in the price. The certified milk is best, but the small supply and high price limit its usefulness. It is better for physicians to have inspected milk for use than to trust themselves to an unknown and often filthy milk supply. Inspected milk will, he said, lead to certified milk, but until the supply of certified milk becomes larger and the price lower, the recognition of inspected milk will promote the increase of clean milk and do away with the using of dirty milk.

PROF. C. B. LANE, Washington, D. C., referring to Dr. Tuley's paper, said that he (Tuley) outlined the condition of dairies around Louisville and stated that 67 out of 100 are unclean, but instead of looking on these conditions as insurmountable they simply went to work and cleaned them up. The same thing can be done in any city. As to certified milk, he said that what is needed in milk production to-day is not more expenditure, or better architecture, but cleaner cows and cleaner barns and more sanitary conditions all around. While in Louisville Professor Lane went to see one of the sanitary plants, and as he approached the place the barn loomed up, one of the old-fashioned kind. He expected to find old-time conditions, but was agreeably surprised. Windows had been put in this old barn; every cow had four square feet of glass. There were cement floors, good stalls, and everything was clean. Around other cities, he said, there are hundreds of dairies which could, at very little expense, be brought up to a high grade and produce certified milk.

Of the three classes of milk which have been mentioned, certified, inspected and the ordinary class, the producer can take his choice and produce certified milk at 8 or 10 cents a quart, or inspected milk at 6 or 8 cents, or dirty milk at 4 to 6 cents a quart. The consumer can also take his choice. As it is now, there is not one city in ten where there is any attempt made at grading the milk. The dirty sells for the same price as the clean. The consumer has no way of knowing the difference. In a town in New Jersey the names of all the dairymen are published, with the rating of their dairies and the average bacteria present in each producer's milk, monthly and yearly. A statement is also included of any prosecutions made, so that the public can know what is going on. Professor Lane believes in exposing these things. Both dairyman and consumer should know all about the products they handle.

DR. CHARLES G. KERLEY, New York City, took issue with Professor Lane in regard to the supply of milk to poor people. They do not know what good milk is. They have the least money and the most babies, and the state is in duty bound to protect the offspring of the poor. This work is for the protection of these poor children who have no means of protection from their own people, because of the unfortunate situation in which they are born, and which is no fault whatever of theirs.

DR. A. C. MERCER, Syracuse, N. Y., made a suggestion, and that is that physicians insist that pasteurized milk is simply renovated milk. This pasteurized or renovated milk business he said, may be likened unto a lady going to a bonnet shop and buying a bit of ribbon and trailing it through the mud on the way home, then trying to wash and iron it and put it on a hat, instead of keeping it clean from the beginning.

DR. ALEXANDER MCALISTER, Camden, N. J., referring to the sale of skim milk, said that there is a law in Pennsylvania and New Jersey requiring that all skim milk be labeled, and any milkman found selling skim milk without being labeled as such is fined.

DR. HENRY E. TULEY, Louisville, Ky., thought that Washington is many years behind the times. With the many departments of the government at its command, it should have begun this work long ago and been an example to other cities of what good could be accomplished. As to pasteurization, New York City, he said, has disposed of the question of wholesale pasteurization most satisfactorily. The health department of that city, after conference with members of the medical profession and the milk commissions, has asked for a large appropriation, something like $1,000,000, which is to be expended in the inspection of dairies. This is a wise decision and it is believed that the result will justify this large expenditure. At a conference of medical milk commissions the Cincinnati members reported the results of a very interesting investigation of milk delivered to several hospitals and its condition when it reached the various floors for distribution to the patients. The increase in the number of bacteria between the time of its delivery to the hospital and when delivered to the patients was enormous. Dr. Tuley is convinced that public opinion is a difficult thing to arouse, in spite of what has been said. It is especially difficult to educate the poor in regard to milk. An important item to them is the cost of the milk. It is absolutely impossible to produce a clean, cold, wholesome milk cheaply. The question of the price of certified milk has agitated the Louisville Milk Commission not a little. The price has been placed at 10 cents a quart to consumers. The producer gets 25 cents a gallon, the distributor 15 cents a gallon. Both the producer and the distributor are under control of the milk commission. A clean, cold milk can not be produced for less than 8 cents and possibly 10 cents a quart. Milk fit for consumption can only be had at prices cheaper than this when philanthropic people and societies aid the poor. The question of tuberculosis in dairy cattle is most important, and Dr. Tuley urged that the public be educated to the dangers which lie in a milk supply coming from a non-tuberculin tested herd.

Special Diets in Hospitals.—A committee was appointed by the French authorities, in 1903, to suggest modifications in hospital diets. The recommendations of the committee were adopted and attempts have been made to introduce them gradually in the Cochin Hospital. Eight different diets were proposed by the committee, the diet for healthy persons, for convalescents, for dyspeptics, for the tuberculous and for diabetics, the milk-vegetable diet, the exclusive milk diet and the salt-free diet. The results have been eminently satisfactory. The salt-free diet is a recent suggestion on the part of the committee, as also the addition of bouillon to the diet for the tuberculous. The committee urges that roast meat should be ground fine for dyspeptics, and that the articles of food in the salt-free diet should be varied to render it as appetizing as possible. The latest report of the committee was published in the *Bull. Soc. Méd. des Hôp.* for June 28 and July 5, 1907.

THE ABSORPTION AND ELIMINATION OF SOME COMMONLY USED DRUGS,

WITH PRACTICAL DEDUCTIONS FROM A KNOWLEDGE OF THE SAME.

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It is a regrettable fact that many physicians prescribe drugs either from habit or from hearsay. Even with the drugs prescribed many times daily some of their important actions are unknown or forgotten.

Certainly it is not necessary for me to state that a knowledge of the absorption and elimination of drugs is required before they can be administered intelligently. The fact that a physician is prevented from overdrawing his mortality account by an indulgent Providence should not make us any the less eager to bring about an improvement in a condition so easily improved. The trouble is we do not study our materia medica enough. Many of us get our ideas of therapeutics from works on practice. This is sufficient to a degree only. The knowledge obtained from such a source can not replace the knowledge of the physiologic actions of drugs that should be the basis of our therapeutic efforts.

That the systemic action of a drug is due to its absorption can not be disputed, and that the duration of its action is dependent on its elimination or oxidation is equally true. Drugs in the stomach produce no effect outside of local and reflex actions. It is only when they gain access to the system at large that their influence is felt. The knowledge of the rapidity with which a drug is absorbed and eliminated carries with it the knowledge of how often to repeat the dose of that drug. To prescribe a drug that is exceedingly fleeting in its action at long intervals is as absurd as it is dangerous to prescribe at short intervals a drug that is slowly eliminated. Knowing the relation of the drug to both of these processes gives us a happy control over its action.

The rapidity with which a drug is absorbed depends on a number of conditions. As a rule, the more soluble the drug the quicker is it absorbed. Alcoholic solutions are more rapidly absorbed than others. Drugs in solution when served hot are introduced into the system more rapidly than when served cold. Some drugs are so irritating to the stomach that the local disturbance produced entirely prevents absorption. Some drugs, but poorly absorbed themselves, form in the intestinal tract compounds that are rapidly and easily absorbed. So much for the drug.

As to the patient, the chief factor influencing absorption is the circulation. If the circulation is active absorption will be active. If the circulation is sluggish absorption will be slow. It may be entirely suspended. Absorption is peculiarly slow in dropsical conditions so that hypodermic medication is at times not only uncertain, but absolutely dangerous, for the various doses remain in the tissues for days only to be absorbed with the exudation after severe purgation, active diuresis or tapping. In this way the patient gets at one time all that has been given for several days. This could easily prove fatal, especially when the generally weak condition of this class of patients is considered.

The condition of the stomach and intestines markedly affect the absorption of drugs. It is apparent that a chronic inflammation of the stomach, with its accompanying coat of viscid mucus, will retard absorption. The

same is true of acute inflammatory conditions. Some drugs are not absorbed from the stomach at all, but owe their effect to the fact that they are passed into the intestines where absorption is active. Thus it is that the motor function of the stomach affects absorption, while an active peristalsis may carry the drug so rapidly through the intestinal tract that but little of it is absorbed. An empty stomach absorbs rapidly; a stomach filled with food absorbs more slowly.

The skin can not be penetrated by many drugs, while others pass through readily and easily. We take advantage of this fact in the treatment of certain diseases, especially where we wish to spare the stomach. So prompt is the absorption of some drugs through the skin that toxic effects are easily produced; therefore, this means of administering drugs should not be used carelessly. It is hard to reconcile the possession of intelligence with the fact that physicians try to get effects, by local application, from drugs that have no power of penetrating the skin. Yet this is sometimes the case.

The fate of drugs after they gain entrance to the general system is an interesting study. Some of them are eliminated unchanged; some reappear in the excretions as compounds formed from the original drug, while others are oxidized. From a practical standpoint, in regard to systemic effect, it makes little difference how the effect of a drug is lost, just so we know that it ceases to act in a certain time. This knowledge permits us to regulate the doses that they will not overlap, thus avoiding the so-called accumulative action. On the other hand, we avoid the withholding of a drug much needed by the system by administering at short intervals one whose action is fugacious.

OPIUM.

Absorption.—Opium and all of its preparations are rapidly absorbed when given by the mouth. The effect of an ordinary dose can be felt in ten to fifteen minutes after it has been given. Given hypodermically its effect is much more rapid. Morphin given in this way can be detected in the saliva three minutes afterward. So sudden is its effect when given hypodermically that one should be careful not to give too large a dose when administering it for the relief of pain, as the pain may suddenly stop and the full force of the drug be spent on the vital functions, causing death. One-sixth of a grain of morphin has caused death, so it is better to give small doses and repeat every half hour until relief is obtained, then stop, or give less often. Opium is not only readily absorbed from mucous membranes and subcutaneous tissue, but it is absorbed in a slight degree when applied locally to the skin; at least clinical proof leans a little in this direction. A case seemingly corroborative of this assertion is on record in which four grains of crude opium placed in the ear caused death.

Elimination.—The elimination of this drug is comparatively slow, a single dose taking about forty-eight hours to be completely eliminated. It appears in all the secretions, no matter how administered. After a hypodermic injection it is found in the urine, feces, sweat, tears, milk, saliva and gastric juice. It is these last two that are especially contaminated with it. Very little escapes by way of the urine. One-half the dose can be recovered from the stomach even when it has been administered under the skin, or by the rectum. In chronic opium eaters it can be obtained from the urine one week after they have been taken off the drug, and in one case it was found in the brain, liver and kidneys two weeks after the last dose was taken before death ensued from other causes. Opium thus seems to have a cumulative action. The child *in utero* can acquire the habit from its mother constantly taking the drug.

Practical Deductions.—Large doses of opium should never be given; small doses frequently repeated are preferable. Opium applied locally has but little effect, and such as it has is probably of central origin. Given repeatedly or in large doses to nursing mothers it may cause alarming symptoms in the infant. When a mother who is a habitual opium eater gives birth to a child, the child may develop alarming symptoms about the second or third day. The child may go into collapse from the sudden discontinuance of its accustomed dose of opium. In opium poisoning one of the most important things to do is to keep the stomach free from the drug, as it is largely eliminated into this viscus to be reabsorbed. To accomplish this end the stomach should be washed out regardless of the way in which the drug has been taken. Or emetics with copious draughts of water may be given and the patient made to drink at short intervals a weak solution of potassium permanganate, which may be given freely without fear of doing harm. On the other hand, the hypodermic use of this solution is useless. The urine, but more especially the saliva, can be used in making a diagnosis, as they both will respond to tests for morphin. This is important from a medicolegal standpoint, and in differentiating between opium poisoning, cerebral hemorrhage and acute alcoholism.

COCAIN.

Absorption.—This drug is used extensively and is a powerful agent for good and harm. It is absorbed with remarkable rapidity from all mucous membranes, but it can not penetrate the unbroken skin. As the ear from an external point of view is not lined with mucous membrane, it would seem that cocain must be absorbed with difficulty, if at all, when placed in the auditory canal. Clinical experience strengthens this opinion, as ordinary solutions are almost useless for anesthetizing the drum. Cocain itself (the alkaloid) is soluble in fatty bases, but its salts are not. While this fact is of some practical import, it is not as important as some writers would have us believe, for, whether it is soluble or not, when placed in contact with a mucous membrane its effect will be felt. This can be demonstrated easily by making an ointment of cocain hydrochlorid and then placing a little of it in the rectum. The pain from a fissure or ulcer is promptly relieved temporarily. Solutions of cocain are more readily absorbed from the nasal cavities than from any other part of the body; the eye comes next, while the mouth and male uretha are not far behind these. The rectum and vagina offer much more resistance to the passage of this drug into the system. The effect of the drug when applied to these susceptible areas is felt in half a minute. Hypodermically its effect is almost instantaneous. A girl of 12 met death in forty seconds from a hypodermic injection of twelve drops of a 4 per cent. solution. Death has occurred from rubbing a little of a 5 per cent. solution on the gums, and a 4 per cent. solution applied for toothache has caused death. One fact stands out prominently in connection with the use of cocain in the eyes and nasal cavities, and that is that very often the systematic effect obtained is out of all proportion to the amount of drug used. This is explained by Corning in the following manner: Remedies applied to the nasal mucous membrane reach the brain, and especially the cerebral cortex, in a more con-

centrated state than when administered in other ways. Even though the amount of medicinal substance may not be great, its increased concentration at the seat of its action must of necessity result in physiologic effects out of proportion to the amount used. It is supposed that the drug reaches the brain in this concentrated state by being taken up by the vessels that penetrate the lamina cribrosa.

Elimination.—Cocain is eliminated rather rapidly, chiefly by oxidation. A small amount escapes by way of the kidneys.

Practical Deductions.—In case of a patient on whom cocain has never been used, the physician should exercise caution and should have close at hand alcohol and ammonia to use in case symptoms of collapse arise. He may not need these stimulants often, but sometimes he will, and need them quickly. When the drug is injected into the tissues to produce anesthesia, if the part of the body permits, a ligature should be thrown around it in order to keep as much of the drug as possible from entering the general system. After the operation is completed the ligature should be removed gradually. It is advisable to let the wound bleed freely before coapting it, in order to wash out as much of the cocain as possible. Cocain is of but little value, if any, in earache. To cocainize the ear drum equal parts of cocain, menthol and phenol should be used. A few drops of this mixture may be dropped into the ear shortly before operating. Strong solutions should not be used ordinarily in the eye, nose or mouth, but they can be used with impunity in the rectum and vagina, as solutions of less strength than 10 per cent. have but little influence in these localities. In dropping solutions of cocain in the eye care should be taken that they do not run down into the nose through the lachrymal duct. This can be prevented by pressing on the duct with the finger, or holding the patient's head so that the solution runs out of the external canthus. Excessive dosage should not be used in applying the drug locally.

DIGITALIS.

Absorption.—The absorption of digitalis is exceedingly slow, no matter how it is given. When given by the mouth hours and sometimes days may elapse before its full effect is obtained. It is absorbed by all mucous membranes, although it is more or less irritating to them; it is also rapidly absorbed by the skin.

Elimination.—While its absorption is slow, its elimination is more so; consequently, the drug accumulates in the system and may manifest itself suddenly by the onset of toxic symptoms. As it is used in conditions in which the circulation is disturbed, this, no doubt, contributes to the slowness of its action. How it is eliminated is not positively known. It probably escapes by way of the kidneys, but the larger part of it is supposed to be oxidized in the system.

Practical Deductions.—We can not rely on digitalis in cases of emergency, where it is necessary to stimulate the heart quickly. In these cases we should resort to the simultaneous use of alcohol, or ammonia and digitalis, for about the time the diffusible stimulant is waning the digitalis will begin to take up the work and carry it along for some time. Care should be exercised in draining off dropsical effusions in patients who have been taking large doses of digitalis for some time. The sudden withdrawal of the fluid may cause the absorption of enough of the drug to poison the patient. As digitalis is irritating to mucous membranes, it should not be given by the mouth to patients suffering from acute gastric troubles. In these cases a hot poultice made from the leaves can be applied to the loins, and in this way the physiologic action of the drug can readily be obtained. Most preparations of digitalis are precipitated into the tissues when given hypodermically. This accounts to a certain degree for the slowness of its action when given this way.

NITROGLYCERIN.

Absorption.—This drug is mentioned here to contrast it with digitalis. These two drugs occupy the extreme ends of the scale in regard to the time of action. Digitalis is slow; nitroglycerin is quick. Nitroglycerin is absorbed almost instantly after coming in contact with a mucous membrane. So rapid is its action and so powerful its effect, it should never be "tasted," as death may result. One drop of the official solution has proved fatal. The full effect of this drug is ordinarily felt in from two to five minutes after it is administered and is maintained for about forty-five minutes.

Elimination.—It is eliminated by way of the kidneys and breath.

Practical Deductions.—This drug may be used when a quick effect is desired to relieve severe pain due to muscular spasm, as in angina pectoris. In all cases where it is given for its relaxing effect on the circulation, as in cases of high arterial tension, it should be administered at short intervals. It is useless to give such a drug as this three times a day. Neither should it be combined with digitalis with the idea of overcoming the contraction of the arterioles caused by the latter, for the effect of the one is brief, while the other is greatly prolonged. This counteraction, however, may be obtained by giving the nitroglycerin separately and at the proper intervals.

BELLADONNA.

Absorption.—This drug is rapidly absorbed from mucous membranes and skin. After a dose of atropin has been given its effect is manifested in a few minutes.

Elimination.—Its elimination is rapid by way of the kidneys and intestines; therefore, we need have no fear of a cumulative action. It can be found in the milk of nursing mothers, especially when they are in poor health, for the milk in these cases assumes the character of an exudation rather than a secretion. The effect of a single dose lasts for two or three hours.

Practical Deductions.—In using atropin in the eye the solution should be kept from running down into the nose through the lachrymal duct, as a number of cases of poisoning are on record from this cause. In giving belladonna to nursing mothers the baby should be watched; especially is this true if we are giving large doses and the mother's health is poor. Remembering this will enable one to account for certain symptoms in the infant that otherwise might prove perplexing. In making local applications of belladonna ointment the patient should be instructed to wash the ointment off if marked dryness of the mouth and dilatation of the pupils occur, as enough of the drug can be absorbed through the skin to poison the patient. If we suspect that a patient has been poisoned by belladonna a positive test can be made by dropping some of the urine into the eye of a cat, when dilatation of the pupil will occur if our suspicion is correct. This is important from a medicolegal standpoint. In poisoning from belladonna the urine is retained, so the patient should be catheter-

ized for it is possible that reabsorption may take place from this viscus. However, we catheterize more particularly to prevent overdistension of the bladder.

CHLORAL.

Absorption.—The effects of this drug are manifested quickly (within five minutes) after its ingestion, and last several hours. It is readily absorbed from all mucous membranes if not given in too concentrated form. It is irritating to both skin and mucous membrane, although later it is anesthetic in its effect.

Elimination.—It is eliminated by way of the kidneys, partly as chloral and partly as urochloralic acid. Such urine is capable of reducing copper solutions. Chloral has no cumulative action; it circulates in the blood as chloral. It was once thought that the alkalinity of the blood caused a breaking up of this drug in the system into chloroform and formic acid, but while this change does take place in the test tube when chloral is treated with an alkali in solution, the probabilities are that no such change takes place within the body. Chloral is also eliminated by way of the skin, producing at times a variety of skin lesions.

Practical Deductions.—Chloral should always be given well diluted, and as a rule infants should receive it by rectum. As it is eliminated as chloral, and as chloral is irritating, it should not be given in acute inflammatory conditions of the kidneys. Being rapidly absorbed, it is better to give small doses at short intervals, say every hour, than to give one large dose, especially as patients vary considerably in their susceptibility to its effects. In examining the urine of patients who have been taking chloral for a long time, or in large doses, bear in mind that a reaction with Fehling's solution does not necessarily mean sugar in the urine, for certain compounds of chloral found in the urine are capable of reducing copper solutions.

IODOFORM.

Absorption.—In itself iodoform is a non-irritating substance, but by decomposition and the formation of new compounds it becomes active. It is absorbed slowly from the alimentary tract, but from wounds it is taken up with comparative freedom.

Absorption is much more rapid when applied to wounds, so that poisoning readily takes place after its free use if the denuded area is large. There are several varieties of symptoms that arise from its absorption. There may be simply high fever, or high fever with rapid pulse; rapid pulse without fever, collapse and death, or the symptoms may closely resemble those of meningitis. Especially may any of these symptoms arise if iodoform is used within the peritoneal cavity, for here its absorption is certain and rapid.

Elimination.—The iodin escapes from the body by all the secretions and even by the breath, not as iodin, but as iodids, iodates and organic compounds. The elimination begins soon after ingestion, but is carried on slowly, so that it can be found in the urine three days afterward.

Practical Deductions.—Iodoform should not be dusted freely over large areas of denuded skin. It should be dusted with care within the abdominal cavity. As it is eliminated through all the secretions, babies may get it through the milk of their mothers when they are using the drug freely. In surgical cases the attendant should be on his guard when iodoform has been used and any alarming symptoms should not be credited to shock, hemorrhage or infection until the possibility of iodoform poisoning has been eliminated. It is possible that patients have died from poisoning by this drug and the case diagnosed as one of the above-mentioned conditions. It is said that a quick diagnosis can be made by placing a silver quarter of a dollar in the patient's mouth. If iodin is present a taste of garlic is experienced; or a little saliva can be mixed with calomel, when a canary yellow precipitate is formed, due to the formation of iodid of mercury. When the pulse quickens, or the temperature rises, or the patient shows signs of distress after iodoform has been freely used, it is best to remove the drug and give the patient copious drafts of water. In the severe cases the prognosis is very bad, no matter what line of treatment is carried out. Iodoform by the mouth in ordinary doses very rarely causes alarming symptoms.

THE PARAFFIN INJECTION TREATMENT OF INGUINAL HERNIA.*

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It is more than fifty years since attempts were first made to cure ordinary rupture or inguinal hernia by injecting some irritating fluid into the sac or into the tissues surrounding the neck of the sac.

The method was originally introduced by the regular profession, but it did not take long to demonstrate not only that it was unsuccessful in the majority of cases in so far as effecting a cure was concerned, but also that it was not so free from risk as was at first supposed. While the materials composing the injecting fluids have varied somewhat, according to the fancy of the particular operator, the effect of them all is practically the same, namely, to excite an inflammatory exudate which is expected to block the hernial opening and thus to prevent the descent of the hernia.

As new-formed connective tissue thus excited by means of local irritants is not entirely permanent but usually readily yields to pressure, the results following this treatment are so transitory and so unsatisfactory as not to warrant a continuance of the method by the regular profession. However, the simplicity of the method and the fact that it can be performed without the use of a knife and without laying the patient up, made it popular with the advertising and itinerant charlatan, whose thoughts are more centered on the fleecing of his victim than on the cure of the hernia.

As a result surgeons are almost continually called on to operate on patients with hernias who but a short time before were unsuccessfully treated by the injection method.

About seven years ago Gersuny introduced the injection of paraffin into the tissues for a variety of purposes, one of which was the cure of hernia. The chief advantage claimed for the paraffin as an injection material was that, as it is insoluble in the tissues, it remains where placed practically indefinitely and, therefore, the effect is more or less permanent. The method was readily adopted by the profession and its application extended so rapidly that in 1904 Krlin[1] already had tabulated thirty-six distinct indications for its use.

It was not long before accidents following the injections began to be reported. These consisted principally

* Read in the Section on Surgery and Anatomy of the American Medical Association, at the Fifty-eighth Annual Session, held at Atlantic City, June, 1907.

1. Arch. f. klin. Chir., lxxiv, 915.

in gangrene of the skin over the seat of injection, sudden amaurosis from plugging of the retinal artery, pulmonary emboli, and in one case death.

These cases gave rise to a sharp controversy which is still waged between Gersuny and his followers with paraffin at a low melting point on the one hand and Eckstein and his followers with paraffin of a high melting point on the other.

With this controversy, as well as with the numerous questions that have arisen, such as the proper composition of the paraffin, its ultimate disposition by the tissues, the changes induced in the surrounding tissues by its presence, this paper takes no part, as its sole purpose is to discuss the value of the method in the cure of inguinal hernia.

I wish further to state that I have never used the method myself in hernia and that my experience is based entirely on patients that have come to me after having been injected by others, usually charlatans, at so-called medical institutes for the cure of hernia without the use of the knife.

CASE 1.—The first case, which presented itself a year and a half ago, was that of a young man, aged 23, who a few weeks previously had been injected for a right inguinal hernia. Examination showed several hard roundish or oval masses in the right groin, varying in size from one to two and a half cm. in diameter. The hernia could still be felt bulging to the upper and inner side.

These masses had caused almost constant pain from the time they were injected and the pain was so severe as to force him to seek their removal by operation in order to secure relief.

CASE 2.—Mr. F., aged 50. Hernia began at the age of 6 years, when a swelling was noticed in the left groin, which would disappear spontaneously on lying down. Nothing was done for the rupture until 1891, when he began wearing a truss. Seven and a half years ago he was treated by the injection method. He received repeated injections during a period of three years, but without effecting a cure. About this time a rupture appeared in the right groin. Four years ago both sides were operated on, but the operations were not well done, for the right recurred at once, while the patient was still in the hospital and the left soon thereafter.

In June, 1906, he was treated by the injection of hard paraffin on the right side at one of the so-called medical institutes. He had so much persistent severe pain about the hard masses in the groin that he applied to me on July 16, 1906, for their removal by operation. The hernia was just as bad as before the injection, as the masses interfered in no way with the descent of the hernia. At the operation the masses were found high up in the cord itself and were removed without difficulty.

The operation was then concluded in the usual manner, by the imbrication method, with the wire suture.

CASE 3.—Geo. S., aged 48, a painter, had been troubled with a left inguinal hernia about the size of an ordinary hen's egg for three and a half years. In June, 1906, he was treated at a so-called medical institute by the injection of paraffin. In July, 1907, when he applied to me for operation, several large, hard, roundish masses of paraffin could be felt in the left groin, to the inner side of which the hernia was found descending as large as before the injection. His chief reason for seeking an operation was to obtain relief from the almost constant pain which he suffered about the hard masses of paraffin in the groin.

At the operation, which was done July 12, 1907, the paraffin was found deposited in masses from one to two cm. in diameter surrounding the cord beneath the aponeurosis of the external oblique and beneath the skin. The sac which descended internally to the cord was not interfered with by the masses. The masses of paraffin were removed and the operation concluded in the usual way.

CASE 4.—Mr. S., aged 33. On Oct. 13, 1906, while trying to lift a horse he noticed a swelling in both groins, that in the left being more marked than the one in the right. These swellings gradually enlarged and were soon recognized as distinct hernias. Feb. 23, 1907, at a so-called medical institute, he had the right side treated by the injection of paraffin. The paraffin did no good, so far as relieving the rupture was concerned, but produced so much pain that he applied to me soon after for relief by operation.

Both hernias were of the direct variety and about the right one could be felt several large, hard, roundish masses of paraffin.

Operation March 9, 1907. Several of the masses of paraffin were found to have been injected directly into the cord, others about the cord in the inguinal canal, but the sac protruded internal to them and was uninfluenced by them. They were removed without difficulty, although the structures of the cord were found much thickened about them. The operations were concluded in the usual way and the patient made an uninterrupted recovery.

These cases illustrate not only the uselessness of paraffin injections as an attempt to cure the ordinary inguinal hernia, but also the danger that the hard masses of paraffin may cause so much pain and inconvenience as to necessitate an operation for their removal. Furthermore, the inflammatory thickening which may occur about the masses renders an operation for the cure of hernia more difficult and jeopardizes the rapid and firm union and consequently the permanency of the result.

DISCUSSION.

DR. W. B. DEGARMO, New York, stated that surgeons searched for a cure for hernia for many years, but were retarded in finding such a cure through fear of touching the peritoneum. However, surgeons now know that there is a cure for hernia that is successful in nearly 99 per cent. of all cases, and that it is not attended by very much danger. Therefore, any time spent in discussing methods of injection or attempts to block up the inguinal canal are a waste of time. Every surgeon knows how to cure a hernia. But, as there are many traveling quacks who claim to cure hernia by the paraffin and other injection methods, Dr. DeGarmo considered Dr. Harris' paper a timely one.

DR. JOHN B. ROBERTS, Philadelphia, believed that surgeons are agreed that it is a good thing, sometimes, to inject hemorrhoids with carbolic acid, therefore he would regret to have it go out that under no circumstances should paraffin be used for the retention of a hernia. Some years ago he had charge of a woman who had been confined in bed for several months by reason of an injury. She had also a very small inguinal hernia on one side, and Dr. Roberts deemed it a proper case in which to make beneath the tissues, external to the internal inguinal ring and the canal, a truss or pad of paraffin. Its action would be similar to that which might have been obtained by an instrument maker with a spring and truss pad placed on the outside of the abdomen. Therefore, he injected with great care, as in the case of a sunken nose, a sufficient amount of paraffin of a comparatively low melting point, and produced in front of the inner inguinal ring a pad. He has endeavored to find the woman, but has not been able to do so. Dr. Roberts thought that in certain cases there is a possibility of utilizing satisfactorily even that which has been employed inefficiently and improperly by those who are called quacks.

DR. M. L. HARRIS, Chicago, emphasized the point that apparently new growths do follow the injection of paraffin, and that the use of paraffin in the future, as a prosthesis, will probably diminish in frequency very much if not abandoned entirely for that purpose.

Modification of Benzidin Test for Traces of Blood.—Instead of applying the test in a fluid medium, Assanelli dries the sediment after centrifugalizing 8 or 10 c.c. of urine or dissolved feces. The sediment is spread on a card and dried over a flame. It is then treated with a drop of 3 per cent. hydrogen peroxid, and then with a drop of saturated solution of benzidin in glacial acetic acid. The test reveals blood even in a proportion of 1 to 50,000, in a clear urine, he states, in his report in the *Policlinico*, 1907, page 737.

THE USE OF CARBON DIOXID SNOW IN THE TREATMENT OF NEVI AND OTHER LESIONS OF THE SKIN.

A PRELIMINARY REPORT.

WILLIAM ALLEN PUSEY, M.D.
CHICAGO.

The purpose of this communication is to call attention to the use of frozen carbon dioxid for the destruction of lesions in the skin or for producing a violent inflammatory reaction in such lesions. Its action, of course, depends on its intense cold and on the effect produced by freezing.

Since the idea occurred to me, eighteen months ago, I have used carbon dioxid as a destructive agent in various lesions of the skin. It furnishes a convenient and effective method of removing warts, calluses, senile keratoses and other such lesions. In the case of senile keratoses it is, I believe, an addition of some value to our methods of treatment.

I wish, however, especially to call attention to its use in certain intractable conditions, notably nevi.

The first case here reported illustrates what can be done in pigmented nevus with carbon dioxid. In this case a black hairy nevus occupied one-half of the forehead and a large part of the cheek in a young girl (Fig. 1). At the time of beginning treatment the skin was black, thick and covered by a rough, wart-like epidermis; over the whole there was a very abundant growth of long, coarse, black hair. I first proceeded to remove the hair with *x*-rays; this I was able to do in this case without producing any dermatitis, and without, I may add, any other effect on the lesion. I then began the treatment of the hypertrophic pigmented skin with carbon dioxid. The treatment is not yet complete, but the great improvement at present is evident by contrasting the photograph of the condition at the beginning of the treatment with the present condition of the patient (Fig. 2).

The condition even now is, I am sure, far better than can be obtained in these lesions by any other method of treatment. The site of the original lesions is now covered by a smooth, soft skin, slightly whiter perhaps than normal, but otherwise of normal appearance. There is almost no scarring, the skin is neither elevated nor depressed, and shows no irregularities of texture and no contractions. There are still certain points where the excess of pigment is not entirely removed, but these spots are of faint brown color, and there is no doubt that they can be removed by persistence in the applications, for the spots that remain do not require anything like the radical treatment that the original thick pigmented tissue required. The result even now is that a hideous deformity has been replaced by a slight scar.

This is the most extensive case that I have treated and the one which, in my opinion, lends most interest to the method, but I have used the method in the treatment of more than a score of small nevi, lesions varying from the size of a finger nail to the size of a large coin. The results obtained in these smaller lesions is illustrated by the second case which I report: This patient is a little girl who had an oval nevus, one and one-half inch by one inch in dimensions, situated just below the outer canthus of the left eye and involving part of the lower lid. In this lesion there was some hyperplasia of the connective tissue as well as of the epidermis; the nevus was elevated about one-sixteenth of an inch, was of dark brown color and was covered by coarse, brown hair from one-half to three-fourths of an inch long. This lesion had treatment only with carbon dioxid, thus showing that the hairs in the lesion can be destroyed by the treatment. At present there remains only a superficial scar; it is thin and pliable and of normal color; a half-dozen short hairs are left which can readily be removed by electrolysis. The scar is not visible at a distance of ten feet.

I have also treated several cases of vascular nevus by this method. It is not difficult to destroy the blood vessels in these lesions, and in the cases that I have treated there has been great improvement. The flat lesions can be converted into almost normal colored skin. The greatest difficulty is to avoid making the lesion whiter than normal; with care, however, it is possible, by repeated moderate applications, to destroy just enough blood vessels to leave the skin of almost normal color. In cavernous nevi I believe the method would be successful only in selected cases.

The third case is one of erythematous lupus treated by this method. This patient, four months ago, had over her face and neck numerous disc-shaped patches of erythematous lupus of the size of a coin or larger. The largest area, involving the forehead at the hairy border, was several inches in length and from one-half to one and one-half inches in width. Under the application of carbon dioxid practically all evidences of the disease have disappeared. The border of the large area on the scalp is still slightly infiltrated and red. It will have further treatment. All other patches are apparently well.

Of course no one can prophesy as to the future course of an erythematous lupus, but the present result in this case seems to me to be extraordinarily good. (Subsequently this patient was discharged symptomatically well.) I have also treated several other patches of erythematous lupus in various patients with similarly good results, but no other patient has been so completely treated as this one.

I may add that I have used the treatment in several lesions of lupus vulgaris without success. The freezing effect has apparently not been sufficiently deep in my applications. I have no doubt that nodules of lupus can be destroyed by this method, but I believe it offers us nothing of essential value in the treatment of lupus vulgaris.

The same statement applies perhaps to epithelioma. Epitheliomatous tissue can readily be destroyed with carbon dioxid, and small epitheliomata can be easily removed with it. As I have already indicated, the method is of use in senile keratoses showing beginning epitheliomatous degeneration, but aside from its use in these very superficial lesions I do not believe the method is one of choice in epithelioma.

LIQUID AIR AND LIQUID CARBON DIOXID.

The intense cold of liquid air has been utilized by a number of investigators in treating various lesions of the skin. Trimbell and Dade in particular in this country have experimented with this method of treatment. But there are strong practical difficulties in the way of the use of liquid air: First, it is not obtainable commercially, so that one's supply of it is uncertain; second, it can not be confined in a closed vessel but must be allowed to evaporate gradually, so that a supply, whether it is used or not, lasts but a short time. On account of these objections the possibility of using carbon dioxid as a substitute for liquid air occurred to me on seeing Dade's demonstration of the use of liquid air

as a therapeutic measure. Liquid carbon dioxid is obtainable anywhere that soda fountain supplies are sold and can be preserved indefinitely.

Liquid carbon dioxid as obtainable in commerce is not liquid under ordinary atmospheric pressure, but is held in liquefied state under a pressure of approximately 800 pounds to the square inch. When it is drawn from its drum into the air it evaporates so rapidly that it freezes and is deposited in the form of a white snow resembling very closely in appearance ordinary snow. Its freezing point at atmospheric pressure is about —90 C., while the liquefaction point of air under normal pressure is approximately —180 C. Liquid air, therefore, is about twice as cold as carbon dioxid snow, but I am not sure that this is an advantage in its use as a therapeutic agent. It is possible that the effects can not be so accurately controlled. Both freeze the tissues almost instantly on contact. In a limited experience in the use of liquid air I have not found any difference in the action of the two agents.

Fig. 1.—Appearance of patient before treatment.

Fig. 2.—Appearance of patient after treatment with carbon dioxid. The remaining pigmentation shows more distinctly in the photograph than it does on the patient's face.

The principle underlying the use of both of these agents is, of course, the same. This is to produce, by sudden intense freezing, either violent inflammation of the tissues or their destruction. The technic of the use of carbon dioxid as I have carried it out is as follows:

The carbon dioxid snow is collected in a cloth or piece of chamois skin as it escapes from the cylinder. In order to collect it best the cylinder should be tipped up so that the opening is at the lower end. The carbon dioxid is deposited on the cloth in the form of a snow, which can be compressed and handled very much like ordinary snow. The liberation of gas is so rapid that unless the snow is firmly grasped there is a layer of gas between the solid mass and the skin so that it can be easily handled. The snow is pressed between layers of chamois skin into solid masses, as one would make a snowball, and then pared with a knife into whatever shape is desired. It is then held in forceps and applied to the surface. In treating lesions less than a centimeter square the snow can be pared, or melted between the fingers, into the shape of the lesion. In treating a larger lesion I have found that it is desirable to cut the snow in the shape of square sticks with an end surface not more than a centimeter square. In freezing, the end of the stick is applied. It is best to make the freezing surface of the snow rectangular, in order that adjacent areas when frozen may closely correspond to each other without overlapping.

If the agent has any therapeutic usefulness—and I decidedly believe it has—this depends principally on the fact that in it we have a destructive application whose action can be accurately gauged and is therefore controllable. In the next place it is an agent by which one can produce a violent inflammatory process in the vascular tissues of the skin without completely destroying the overlying epidermis, so that some epidermal cells are left over the lesions to lessen scarring. The effects produced by the application of the agent depend on two factors: first, the amount of pressure exerted, and, second, the duration of the freezing. The stronger the pressure the deeper will the tissues be frozen. Under the maximum amount of pressure which can practically be exerted in using the snow I should say that freezing to the depth of from one-eighth to one-sixth of an inch can be produced in a few seconds. Under ordinary circumstances freezing to the depth of from one-sixteenth to one-twelfth inch is produced. As a rule I exert just enough pressure to fix the snow firmly against the skin,

but here I vary somewhat according to the effect desired. The depth, and perhaps the suddenness of the freezing with carbon dioxid constitute the difference between this measure and freezing with volatile mixtures which are simply sprayed on the surface. With these there is merely a surface freezing; with the other there is freezing of the tissues to a considerable depth.

DURATION OF FREEZING.

The duration of the freezing is, of course, the most important factor. Within a second after the application of the snow the skin is frozen white. If the skin is frozen under slight pressure for from five to ten seconds or more it is converted into a hard, white, frozen mass, like white ice. As a rule, this frozen mass thaws out in about twice the length of application of the carbon dioxid. For example, after an application of thirty seconds it requires sixty seconds, approximately, for the mass to thaw. During the freezing there is only a sensation of cold; this is not disagreeable enough, as a rule, to make a child cry. On thawing there is a stinging sensation which is simply disagreeable. This disappears usually within a few minutes, but may persist for half an hour or more. In one or two minutes after thawing there is a little moisture of condensation on the surface and a slight erythema; in ten minutes there is a beginning wheal, which soon becomes well developed. After an application of from five to ten seconds there will develop in the course of from six to eight hours a sharply circumscribed inflammatory area with vesiculation of the epidermis. After an application of five seconds the inflammatory products will be absorbed in about five days without crusting and without any scarring whatever. After a freezing of ten seconds the vesiculation will likely be followed in about three days by the formation of a thin crust; in the course of a week this will disappear with the production of very superficial sclerosis of the upper part of the corium, but without changes in the epidermis—practically without any scarring whatever. These applications of from five to ten seconds are sufficient to remove thin layers of pigment from the skin, or when an inflammatory reaction is desired for therapeutic purposes, as in erythematous lupus. After an application of twenty seconds there is formed in about six or eight hours a superficial tense bulla, which in the course of a few days dries up, leaving a crust that disappears in about ten days. With an application of thirty seconds duration the effect is still more marked; the bulla is followed by a superficial crust and its disappearance in the course of about two weeks is followed by a slight scarring. With an application of fifty seconds there is formed a tense bulla, which in the course of a week is followed by a closely adherent dry eschar which does not separate for about three weeks. The eschar separates without ulceration and leaves a superficial scar which is smooth, white and not contracted.

In practice I have found applications of from ten to thirty seconds duration the most satisfactory. The effect of these can be gauged accurately, and if one application is not sufficient it can be repeated later. There is almost no scarring from such applications. With longer applications there is a slight amount of white scarring, white because there is destruction of many of the capillaries. In treating a lesion that it is desired to destroy promptly, and under conditions in which a slight amount of scarring makes no difference, a vigorous prolonged single application can be made and all the work done at once. If deep destructive action is desired this can be attained by repeating the application on successive days or at longer intervals. Otherwise the application of the snow should not be repeated until the effect of the previous application has disappeared.

Special Article

TRAVEL NOTES FROM SOUTH AMERICA.

NICHOLAS SENN, M.D.
CHICAGO.

(*Continued from page 1281.*)

IV.* WORK OF THE NATIONAL BOARD OF PUBLIC HEALTH OF THE REPUBLIC OF BRAZIL.

Since the country was invaded by Europeans nearly four hundred years ago, many hard battles have been fought on the soil of Brazil for possession, power and personal gain and influence. In many of these wars, Justice was blindfolded and victories were won by superior intelligence and greater effectiveness of arms, regardless of the causes which led to strife and bloodshed. The greatest and most honorable warfare in which Brazil ever engaged, however, is now being waged, and victory after victory has crowned her fighting forces, armed not with implements of war, but with the silent arms of science, which have destroyed the most formidable foe of the country, the death-dealing microbes of the most dangerous acute transmissible diseases—yellow fever and bubonic plague. What Colonel Gorgas has accomplished in the Canal Zone and the cities of Panama and Colon has been gained by Dr. Oswaldo Cruz (Fig. 8) in Brazil during the last four years. At the head of a Sanitary Corps of 2,200 well-trained and well-equipped men, and with the aid of a large staff of assistants specially trained for their work, he has succeeded in ridding the Brazilian coast of yellow fever and reducing the ravages of bubonic plague to a minimum. These two diseases for years and years have decimated the population of Brazil, clogged the wheels of commerce and seriously impeded the development of her boundless resources. The fear of these diseases

Fig. 8.—Dr. Oswaldo Goncalves Cruz, Director General of Public Health of Brazil.

* This series was commenced September 14.

has kept men of wealth and skill away from her shores and has obstructed the flow of immigration.

None of the many whom the Brazilians have honored by the erection of monuments and statues has done so much for the country as Dr. Cruz. He has undertaken the difficult task of fighting yellow fever and bubonic plague fearlessly and with a firm conviction that victory would crown his well-laid plans and heroic efforts. A life-sized statue in pure solid gold to his memory would be but a feeble acknowledgment of the invaluable services he has rendered his country, and his victory over these two diseases, to say nothing of what he has done in the way of general prophylaxis, entitles him to the highest honors an appreciative and grateful nation can bestow. Dr. Cruz is the dictator of the sanitary department of the federal government. His word is law and his requests are heeded and never pigeon-holed, as is only too often the case in sanitary matters in our country from the general government down to the administration of the smallest of villages. He directs the work in all the different departments of the board of health, each of which has its own chief, who is, however, subordinate and accountable to him.

Dr. Cruz is only 36 years of age, but hard work has prematurely bleached his hair. He has a pleasing personality and is kind and considerate toward his subordinates, but the massive lower jaw, firm mouth and hard lines of his face go to prove that he can say "No" when occasion requires it. His whole bearing would suggest that he expects obedience to and prompt execution of his orders. He has the respect and love of every member of his department, and his assistants in the laboratory fairly worship him. He left for Europe on a six-months' vacation the day after I visited his laboratory and experimental station. During his sojourn in Europe he will attend the meeting of the International Congress of Hygiene, and I am sure that the contributions he will make to the transactions of that scientific body will attract much attention, as his deep learning and vast experience entitle him to speak with authority. He receives an annual salary of $6,000 in gold, an insignificant sum, considering the value of his inestimable services. The National Board of Public Health of Brazil has its main office in the central part of the city, in one of the best buildings in one of the most important streets. On the second floor is a series of large rooms in which pens and typewriters are handled by a large corps of clerks, and where the archives of the department are kept. From this central office orders and instructions are sent out to all parts of the country.

THE BRAZILIAN INSTITUTE OF BACTERIOLOGY, PATHOLOGY AND EXPERIMENTAL RESEARCH.

A whole fleet (Fig. 9) of small steamers is in the service of the board of health, among these the great floating disinfector "Pasteur" and one for the exclusive use of the director, Dr. Cruz, and his staff of assistants in the Bacteriologic Institute (Instituto de Mangninhos), situated on the opposite side of the harbor about ten miles from the city. The assistants work in this institution every day and the director is there three days in the week. The steamer leaves the wharf at 7 o'clock in the morning and returns in the evening. My friend Dr. L. L. Seaman and I had to get up at half-past 5 in the morning to reach the dock in time, and as it rained hard, the trip from the hotel to the landing was not pleasant, but what we saw and learned in this model institution under the personal guidance of Dr. Cruz remunerated us amply for the trying early morning experience. The institution owns a large tract of land recently cleared of the virgin tropical forest, and one building after another is rising to take its place among the many in contemplation. The main building is in process of construction and the illustration (Fig. 10), is taken from the model. When completed it will be a credit to Brazilian architecture, and the arrangement and equipment of the interior will be unsurpassed by the many European institutions of greater pretensions. The assistants, ten in number, are all young men who are well-qualified for their work, and who are anxious to be a credit to their master. Each one has his special work assigned to him by the director. The first two assistants receive a salary of $300 a month and the others $250 each.

Bacteriologic, pathologic and research work and the production of prophylactic and curative sera take up the time and

Fig. 9.—Fleet of the Sanitary Service of the Port of Rio de Janeiro.

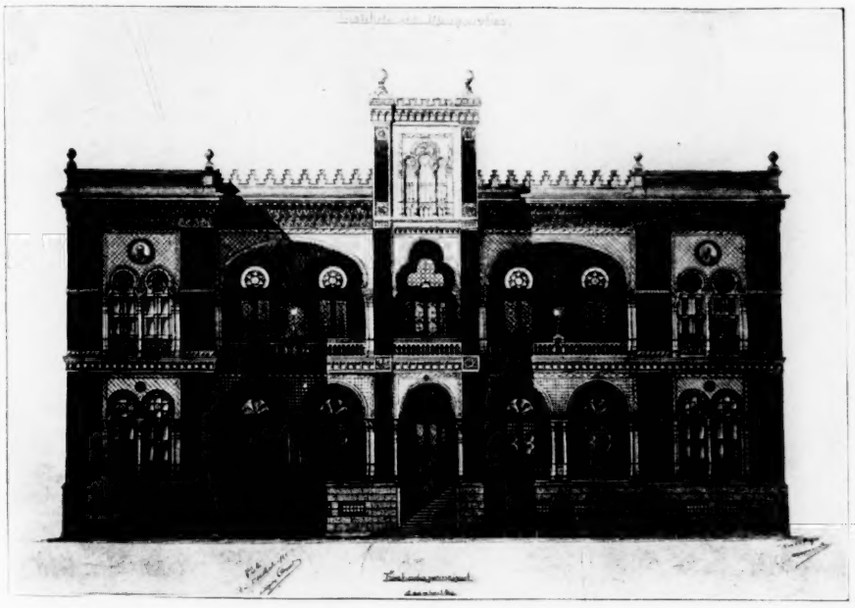

Fig. 10.—Main building, Public Health Institute.

attention of the chief and his assistants. Fifty horses and one mule serve as material for obtaining the sera. The animals are bled twice a month from the jugular vein, fourteen days after infection. The antitetanic serum is used only as a prophylactic, as it has been found, here as elsewhere, useless as a curative agent. The serum for the prevention of bubonic plague is prepared differently, from Haffkine's preparation, which is a sterilized culture of the bacillus; here it is the serum of the blood of the infected animals. Behring's antidiphtheritic serum is relied on exclusively in the treatment of diphtheria. The different sera, including the antistreptococcic,

Fig. 11.—General view of experimental station for small animals.

are sent in hermetically sealed bottles to all parts of the country as they are needed, free of charge. One of the horses has been used five consecutive years and remains, as well as all the rest of the animals, in excellent condition; in fact, the animals appear better than those seen on the streets of the city. Doves, pigeons, guinea-pigs, rabbits, white rats and mice are all kept in great numbers for original research work (Fig. 11). The stables, pens, cages and operating rooms are kept scrupulously clean, and all operations and experiments are made under strictest aseptic precautions.

We witnessed the abstraction of blood from the heart of a guinea-pig. The puncture was made with a syringe with a fine glas point, and as soon as the needle entered the heart, the black blood flowed freely into the globular expansion of the instrument from which the air had been exhausted. The operation had for its object the obtaining of the absolutely pure blood for experimental work. In one of the compartments of the animal house (Fig. 12), I saw four half-grown guinea-pigs which had been inoculated and which stared at us with their mischievous-looking eyes, wondering what would happen to them next. Two large baboons from Senegal had been inoculated with the virus of syphilis four months ago, but, happily for the animals, the result was negative. In the bacteriologic laboratory 300 different kinds of cultures of as many different kinds of pathogenic and harmless microbes are stored away, as well as thousands of slides for microscopic examinations.

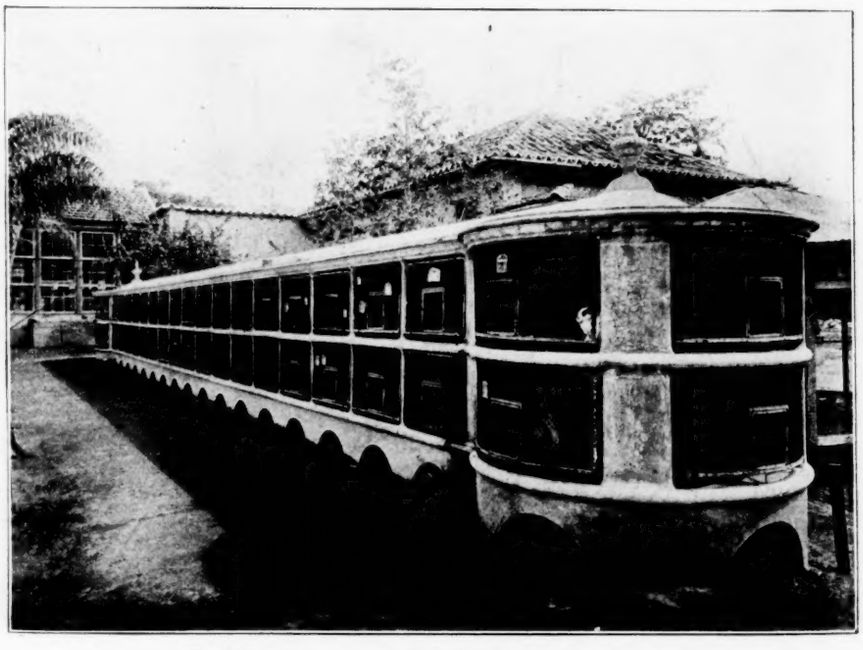

Fig. 12.—Cages for small animals, experimental station.

Dr. Cruz is experimenting with a new serum for the treatment of tuberculosis on a theory which differs entirely from the prevailing ideas, but so far the trials have not been sufficient to prove the correctness of his position. He is also engaged in preparing a comprehensive work on the malaria mosquito, for which a negro artist has already made many very accurate and beautiful illustrations descriptive of the macroscopic appearance and microscopic structure of this insect. The artist has no lack of material to work on, as hundreds of these insects, beautifully mounted and in air-tight bottles, are at his disposal. The scientific world will be enriched by this book, the product of a master mind.

It was a source of great satisfaction to me to find such a distinguished scientist in a country with such a great future before it, and we returned from the institute with a firm conviction that South America is on the verge of a scientific awakening which the outside world will have to recognize and appreciate. The institute keeps 100 medical journals on file, among them THE JOURNAL of the American Medical Association. Only one case of actinomycosis has been observed in Brazil in the last thirty years, and blastomycosis is unknown.

THE SANITARY CORPS.

The Sanitary Corps of the Brazilian Board of Public Health, composed of 1,700 men, is stationed in the center of the city opposite the Place Republica, in the buildings well adapted for the purpose. The corps is under the command of Dr. Pachico Leao, and is employed exclusively in fighting fever as a similar body of 600 men is engaged in general sanitary service. The men are in uniform, distinguished by a small red cross. They are paid $36 in gold a month without lodging and board. Many of the men are negroes, whose services have proved very satisfactory. They are all well drilled, and a certain number are always ready at headquarters to start out at a moment's notice. (Fig. 13.) The isolation wire tents or cages are made here, and a sufficient number of them is always at hand to

meet certain emergencies. Ambulances, transport wagons, tents, carriages, carts, disinfection apparatus, antiseptics and an army of mules and horses are kept in readiness, so that when calls come no time is lost in responding to them. (Fig. 14.) The wire-screen cages are made in sections, and the men demonstrated to us how quickly they could be put together. The two doors on opposite sides of the cage close automatically when opened. This brigade of yellow-fever fighters must have worked hard until the disease was under control, and is now enjoying a well-deserved rest. The force has not been reduced since the disease has been conquered, and is retained to meet emergencies which may arise in the future.

We saw one section of this force, composed of twelve men, engaged in the disinfection of a suspicious house. A large disinfector on wheels, drawn by a span of mules, was employed in forcing the carbolic-acid solution through a rubber hose to the second floor, where the men had removed here and there a board of the wooden floor, and were injecting the antiseptic fluid underneath the flooring. (Fig. 15.) The family had taken refuge in a small room in the rear and were expected to return to the disinfected quarters in the evening of the same day. The air in the interior of the house was saturated with the odor of carbolic acid. To make the war on rats, the disseminators of bubonic plague, more effective, a law has been passed, and is now in force, prohibiting the use of wood as a material for flooring in the first story of any house within the city limits. The floors must be made of concrete, tile or asphalt.

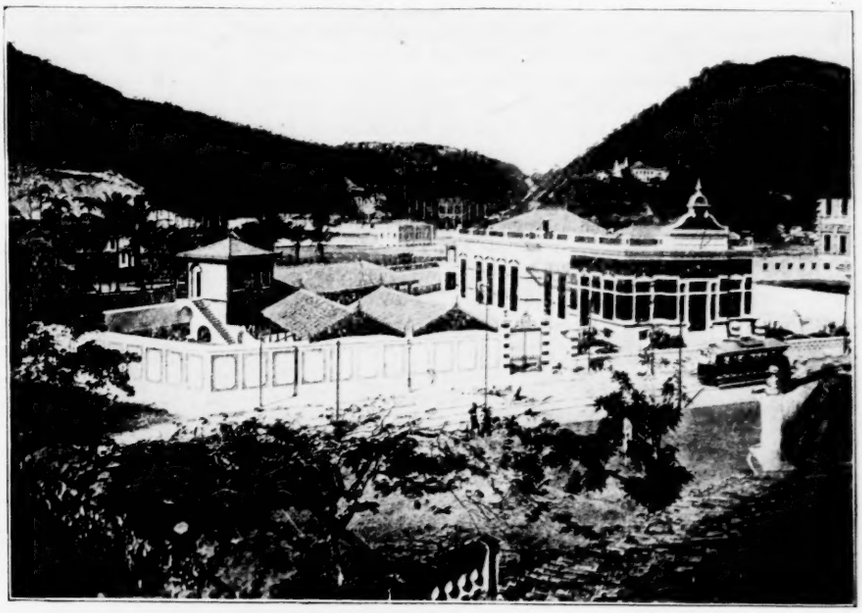

Fig. 13.—District disinfection station of Botafogo.

Fig. 14.—Service of prophylaxis of yellow fever, Mosquito Brigade.

MUNICIPAL VACCINATION INSTITUTE.

This institute (Instituto Vassinico Municipal) is another important branch of the Board of Public Health. A special building, centrally located, has been erected recently as a permanent station for vaccination, which, by the way, is not compulsory, and for the production of bovine vaccine virus, which is sent gratuitously to all parts of the country. Baron de Pedro Affonso is the director of the institute. A staff of young physicians assists him in his work. In the rear of the building is a stable in which the animals, all yearlings, are kept. The floor of the stable is made of tiling and is kept thoroughly clean. The inoculations are made under strictest aseptic precautions in a special operating room. One of the flanks of the animal is freed from hair by clipping and shaving over a surface about one foot square, and after thorough cleansing of the skin, scratches are made with an instrument of special construction, and the virus rubbed in over the raw surface. The virus for vaccination is prepared from the dry bovine crusts, which are pulverized, freed from hair and other impurities by filtering the emulsions, and by the use of the centrifuge, all procedures being made under strict aseptic precautions; after this the vaccine fluid is preserved in hermetically-sealed glass tubes, which are supplied to physicians without cost. The baron is an enthusiast in his work and has devised a number of innovations in perfecting the preparation of the virus, and in the technic of vaccination. The annual labor expended in this institution can best be estimated by giving the number of lymph tubes which were sent out to the different states in the year 1904, which reached the enormous figure of 47,642. The annual expense of the Board of Health of Brazil averages $1,750,000, but the money thus expended is the best-paying investment the republic could possibly make.

PREVAILING DISEASES OF RIO DE JANEIRO.

A fairly good idea of the prevailing diseases of the city can be obtained by an examination of the weekly reports of the board of health, in which the mortality is given, together with the cause of death. I will make use of the report for the middle week (15 to 21) of last July (*Boletim Hebdomadaria de Estatica Demographo-Sanitaria.*) The number of inhabitants is given as 628,675, which probably comes nearer the truth than the census report quoted by the people of the city. The mortality for that week was 234, and the causes of death are given in Table 1.

This weekly report agrees fairly well with the annual report in giving the causes of death and from it it will be seen that

pulmonary tuberculosis takes the first place in the mortality statistics, namely, 46 out of 234 deaths. It is very interesting to read in the latest report of the National Board of Public Health, as quoted by Dr. Stewart in his report to Surgeon-General Wyman of the U. S. Public Health and Marine-Hospital Service (Table 2), the figures showing the gradual decline and final suppression of yellow fever during the last five years.

A few deaths occurred in 1907, up to July 21, but since that time no new cases have been reported or entered in the St. Sebastian Hospital, so that the disease, for the time at least, appears to be eradicated. Ameba is of rather frequent occurrence, and abscess of the liver is not rarely observed as one of its remote complications. The vigorous and persistent war on mosquitoes has succeeded in diminishing to a marked extent the frequency of malaria. Rat extermination, systematic and effective house disinfection and the law prohibiting the use of wood for flooring in the first story of all buildings have succeeded in eliminating, for the time at least, bubonic plague from the mortality list. Proper attention to vaccination and effective general sanitation and isolation of cases of contagious diseases have had a decided influence in diminishing the frequency of transmissible diseases with the exception of tuberculosis. In the report of the board of health for May, 1907, the following figures appear in the mortality statistics: Total mortality from transmissible diseases 322. (*Boletim Mensal de Estatica Demographo-Sanitaria da Cidade do Rio de Janeiro*, May, 1907.) The diseases are enumerated, with their respective mortality quota, in Table 3.

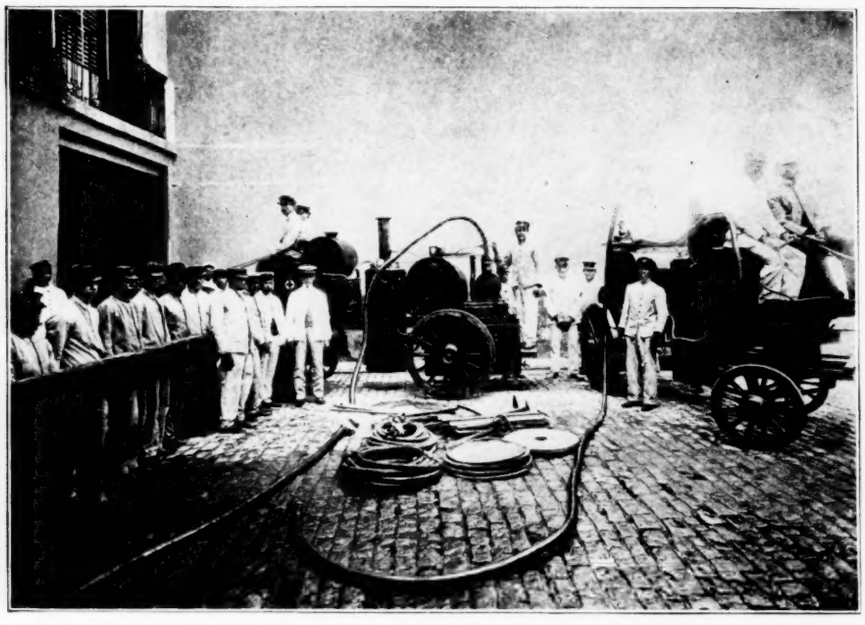

Fig. 15.—Clayton apparatus for disinfection on land.

This table, as well as the one previously quoted, shows the prevalence of tuberculosis in Rio de Janeiro, which induces me to make brief mention of the fight against tuberculosis.

BRAZIL'S FIGHT AGAINST TUBERCULOSIS.

As has already been shown, pulmonary tuberculosis is the most destructive of all the infective and contagious diseases in Rio de Janeiro. Two principal causes may be mentioned, which will possibly explain, at least in part, the great prevalence of this disease in this beautiful city: 1. The mixed population. 2. The great humidity of the atmosphere throughout the entire year. We were in the city during midwinter, a time when precipitation was not at its maximum, and yet the moisture inside and outside of the houses was very disagreeable. Dr. Bulhoes Carvalho has written an instructive pamphlet on the mortality of tuberculosis in Rio de Janeiro, from which I will quote briefly. *Mortalidade da Tuberculose no Rio de Janeiro*, which was presented to the executive commission of the Brazilian League against tuberculosis: The deaths from pulmonary tuberculosis from 1855 to 1903 inclusive amounted to 85,358, the number gradually increasing from 1,369 in 1855, to 2,736 in 1903. In Brazil the lungs are the organs most predisposed to infection, and tuberculosis of the bones, joints and lymphatic glands, so frequently encountered in our hospitals and clinics, is comparatively rare. In Rio de Janeiro there occurred from 1865 to 1903, 6,075 deaths from abdominal tuberculosis, and from 1890 to 1903, 238 deaths from meningeal tuberculosis, and during the same space of time 497 deaths from general or miliary tuberculosis and 403 deaths from tuberculosis of other organs, and from 1895 to 1903, 187 deaths from laryngeal tuberculosis, and during the same number of years the mortality from tuberculosis of the skin was only 9. In 1895, the mortality from tuberculosis of all organs was 2,262, represented by the nationalities given in Table 4.

The mortality from tuberculosis in Rio de Janeiro is one-eighth of the general mortality; that is, about 15 per cent. The mortuary percentage of tuberculosis is about 3.5 deaths for every 1,000 inhabitants. Recognizing the great mortality from this disease, not only in Rio de Janeiro, but also in other parts of Brazil, especially along the coast, the medical profession and the people awoke to the necessity of taking action in checking this disease by united efforts.

The Brazilian League Against Tuberculosis was organized recently in order to popularize and to apply every means offered by science for the prevention and cure of this disease. The league proposes to make use of hygienic measures to prevent contagion, and also to encourage and carry into effect efficient curative treatment while the disease is in its infancy. It also aims to secure useful federal and municipal legislation favorable to its humanitarian undertaking. One of the principal objects of the league will be to build in the most desirable places and to maintain dispensaries and sanatoria for the treatment of tuberculosis. Branch societies will be founded in different parts of the country to take up the work in the respective communities and to look after the welfare of persons afflicted with the disease. The same league will undertake the formation of special leagues against alcoholism and its ravages. The income will be derived from membership fees, which will be 100,000 reis ($33) for life members, 12,000 reis ($3.96) a year for contributing members; not less than 1,000,000 reis ($333) for patrons and for merit members, twice this sum. To honorary membership are eligible persons whose social position, talent, or special virtue will lend prestige to the league. The directorate nominates the two committees which are in charge of the actual work of the league; one of these committees is composed of ladies, the other, of physicians, a sanitary engineer and a lawyer. The league proposes to give entertainments, the proceeds of which will be contributed to the funds of the league. Special committees are to be appointed, the members of which are to make house visits and look after the interests of dispensaries and sanatoria. The league has commenced its work in earnest. On May 23 last it opened a dispensary in the Avenida Central, the finest street in the city, for persons afflicted with tuberculosis. The ceremonies were attended by the dignitaries of the state, the archbishop and a large assemblage of the most prominent citizens. It is the intention of the league to establish a journal of its own, the columns of which will be devoted exclusively to the propagation of knowledge pertaining to the prevention and treatment of tuberculosis, and to general sanitation. The following are the officers of the league: President, Dr. Azevedo Lima; vice-president, Dr. Quedes de Mello; first secretary,

Alarrido Quanabaria; second secretary, Ernesto Senna, and treasurer, Marechal Jardin.

Brazil with its many charity hospitals, orphan and infant asylums, maternities, homes for the aged, and lepers, and insane asylums, most of them built and maintained by donations of its charitably-disposed citizens, and its excellent Board of Public Health, and the League Against Tuberculosis, may well feel proud of its humane labors and take consolation in the maxim: "Charity draws a blessing on the charitable."—*Le Sage.*

TABLE 1.

Yellow fever	none
Bubonic plague	none
Smallpox	1
Whooping cough	1
La grippe	7
Typhoid fever	3
Dysentery	2
Leprosy	1
Erysipelas	2
Acute malaria	1
Chronic malaria	1
Pulmonary tuberculosis	46
Other forms of tuberculosis	3
Purulent infection, septicemia except puerperal	2
Syphilis	5
Cancer and other malignant tumors	2
Other tumors	1
Other general diseases	1
Diseases of nervous system	22
Diseases of circulatory organs	31
Diseases of respiratory organs	37
Diseases of digestive organs	32
Diseases of urinary organs	11
Diseases of skin and cellular tissue	2
Congenital diseases and defects	8
Senile debility	3
Violent deaths, except suicides	7
Suicides	2

TABLE 2.

Year.	Number of cases.	Deaths.
1903	249	133
1904	15	2
1905	16	3
1906	17	6

TABLE 3.

Yellow fever	6
Pest	1
Smallpox	3
Whooping cough	5
Diphtheria and croup	1
La Grippe	34
Dysentery	2
Beriberi	3
Typhoid fever	3
Leprosy	3
Malaria	21
Tuberculosis	220
Other transmissible diseases	20

TABLE 4.

Brazilians	1,680
Portuguese	481
Italians	34
Spaniards	63
Germans	6
English	7
French	11
Other Europeans	8
Anglo-Americans	1
Spanish-Americans	13
Turco-Arabs	1
Other Asiatics	3
Africans	14
Nationality not known	30

RIO DE JANEIRO, July 31.

(To be continued.)

Clinical Notes

REPORT OF A CASE OF INTRACRANIAL TUMOR RESULTING FROM TRAUMATISM.*

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NEW YORK CITY.

Symptoms indicating the presence of a brain tumor are often ascribed to a remote blow or fall on the head. Their etiologic relationship is usually obscure. The development of an intracranial growth as the direct result of traumatism is a rare occurrence. Hence, the report of this unusual case:

Patient.—A man, 25 years of age, was admitted to the neurologic service of the Lebanon Hospital Jan. 4, 1906, with the following history:

History.—Two years ago he received a fist-blow over the right temple, which did not seem to affect him very much, and was not followed by any immediate symptoms. During the following six months he complained of severe pain extending over the right side of the face, frontal and temporal regions. Paroxysmal attacks of headache accompanied by vomiting, and lasting several hours, occurred every morning on awaking. This continued for seven months and he was more or less somnolent, often falling asleep while at work or at his meals. During the next three months he obtained some relief from drugs. His eyesight then began to fail, and he lost the sense of smell. Two months ago, the headache became more intense and continuous, and he was totally blind. No history of alcoholism or syphilis.

Examination.—He was a well-nourished man, weighing 160 pounds. The heart, lungs and abdominal viscera presented no evidence of disease. Pupils equally dilated and rigid; slight horizontal nystagmus in attempts at fixation to either side;

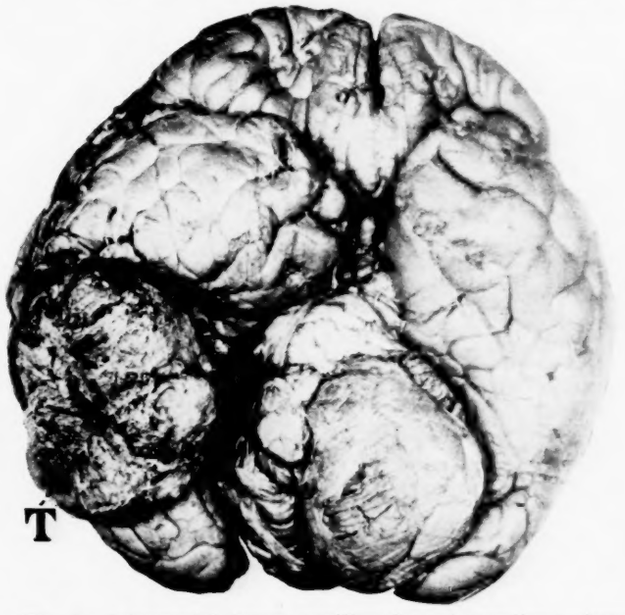

Fig. 1.—Intracranial tumor resulting from traumatism; showing tumor (T) in its relation to the brain.

motility of eyeballs was otherwise normal; vision equaled perception of light; bilateral papillitis of 5 D. without retinal hemorrhages. Slight left facial paresis, affecting the lower branches; no objective sensory disturbance in the distribution of the right trigeminus; tongue normal; sense of smell absent on both sides; watch heard at twelve inches on the right and six inches on the left side; taste not tested; tenderness on percussion over the right parietal region, but no perceptible difference in the percussion note as compared with the opposite side; muscular power and resistance well-preserved in both upper and lower extremities; stereognostic sense intact; no objective sensory disturbance; gait normal; no static ataxia; knee-jerks and Achilles reflex equal and normal; no clonus; plantar reflex exaggerated on both sides, but of normal type; cremaster and abdominal reflex feeble on both sides. Urine contained a trace of albumin. Blood pressure 125 mm. (R. R.)

Subsequent History.—During his brief stay in the hospital he frequently complained of paroxysmal pain in the distribution of the upper branches of the right trigeminus, and over the entire right side of the head, often screaming during the attacks. The rectal temperature ranged from 97 F. to 99 F., pulse from 72 to 112, respiration from 20 to 28. The withdrawal of 20 c.c. of cerebrospinal fluid by lumbar puncture at once intensified the headache; the fluid was normal. The diagnosis was made of intracranial tumor involving the right

* Read in the Section on Nervous and Mental Diseases of the American Medical Association, at the Fifty-eighth Annual Session, held at Atlantic City, June, 1907.

hemisphere, probably located in the temporal lobe, and an exploratory operation was under consideration. A few days later, and two weeks after admission to the hospital, he suddenly became comatose and died within two hours from respiratory failure, the heart beating strongly for several minutes after respiration ceased.

Autopsy.—The autopsy was limited to the cranial contents. There were no external marks of violence. On opening the skull and removing the brain, there was found a spicule of bone projecting from the inner table of the skull through the dura, about two inches above and two inches posterior to the

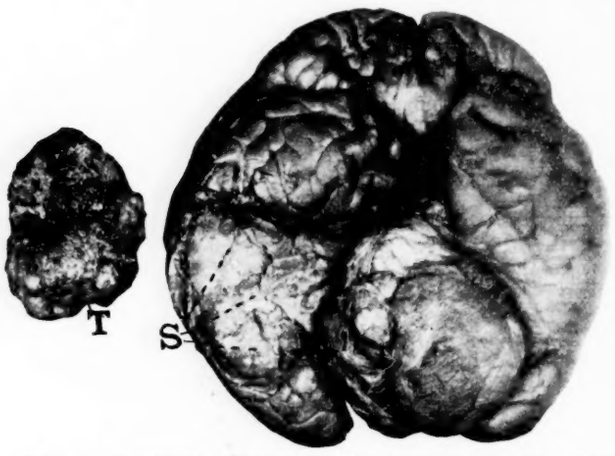

Fig. 2.—Intracranial tumor resulting from traumatism; showing site of tumor pressure (S) and the tumor (T).

right external auditory meatus. A firm, hard nodular tumor 8 by 10 centimeters (3¼ by 4 inches) originated at this point, being adherent to the dura and spicule of bone, lying in the middle cerebral fossa and partly in the posterior fossa, compressing the right temporo-sphenoidal lobe, but non-adherent to the brain. The posterior portion of the middle fossa was considerably eroded. The tumor was an endothelioma.

Although the blow on the head was not considered of much consequence at the time it was inflicted, yet it is

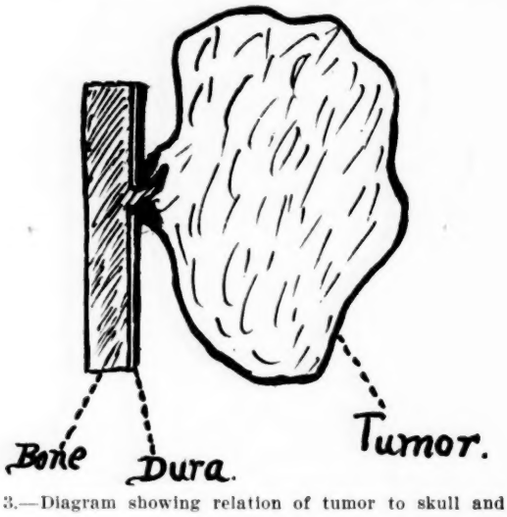

Fig. 3.—Diagram showing relation of tumor to skull and dura.

quite evident that the spicule of bone irritating the dura was the immediate cause of the neoplasm. The time elapsing between the initial injury and death was two years.

The site for operation was to have been in the location preferably selected for decompression when the position of the growth is uncertain, i. e., over the right temporal region. Had the operation been undertaken as intended, the tumor would have been at once exposed and easily removed.

AN INSTRUMENT FOR TESTING THE LIGHT-REFLEX OF THE PUPIL.*

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PHILADELPHIA.

Those of us who have to make many examinations of neurologic patients have been confronted frequently with the great difficulty of obtaining satisfactory tests of the pupil light reflex. This is especially true when, for purposes of cerebral localization, it is desired to ascertain whether or not Wernicke's symptom (the hemianopic pupil inaction sign) is present. For ordinary purposes alternately covering and uncovering the eye with the hand permitting its exposure to the light of a candle, lamp or window is all that is necessary, but in those cases of very sluggish or very contracted pupils, such as are frequently observed in cerebral or spinal disease, it is essential to concentrate the light in order to ascertain whether the reflex is present or absent.

In order to make the test for Wernicke's hemianopic pupillary inaction symptom light can not be employed in the ordinary manner, as it is impossible to send its rays through the pupil on to the blind half of the retina only; a portion of such rays will fall on the seeing half of the retina and thus obviate the test. As the rectangular ophthalmoscopic mirror, such as that found on the Loring model, reflects the light with a more or less sharp edge, it is ordinarily employed in making the test; but the difficulty in permitting the edge of so large an area of light as the mirror reflects to fall on one-half of the retina only has been apparent to all who have ever attempted the procedure, and, indeed, in many instances a positive statement as to whether the symptom was present or absent could not be made.

A few years ago von Fragstein and Kemptner devised an apparatus for making the tests which so condensed the rays of an electric light that a small point could be obtained. The instrument is a good one but is rather expensive. As many ophthalmic surgeons and neurologists possess either a Dezeng electric ophthalmoscope, retinoscope or Würdemann transilluminator, and as the handle of these instruments containing the electric light bulb is the same in each, the difference being only in the tips, I have had Mr. Dezeng make for me a tip especially devised for testing the pupillary reaction to light. It consists of an ordinary cone of hard rubber similar to that employed for the transilluminator, in the center of which, however, is placed a long focus convex lens instead of a tube of glass. In addition, there are stops for cutting out some of the aberrant rays and to assist in the concentration of the light. By changing the distance of the tip from the pupil I can produce either a very small point or a line of light. For ordinary pupil-testing the point is better, but in testing for Wernicke's symptoms the line is preferable. The latter test can be best made by allowing the light to enter the pupil from the side opposite to that on which the instrument is held, as in this way all the rays can be concentrated on either a very small point or a line of light. For ordinary sired. When used with an ordinary battery or street current the circuit can be closed or broken by a slight movement of the switch controlling the current.

1831 Chestnut Street.

*Read in the Section on Ophthalmology of the American Medical Association at the Fifty-eighth Annual Session, held at Atlantic City, June, 1907.

CASE OF SALIVARY CALCULUS IN WHARTON'S DUCT.

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Salivary calculi are sufficiently rare to justify reporting the following interesting case:

History.—C. A. P., aged 22, consulted me Aug. 4, 1907, giving the following history: Trouble began five years previously with pain and swelling on right side of face and neck about angle of jaw. This disappeared by use of astringent washes in a few days. From that time up to one week ago he had always had slight swelling at angle of jaw on right side and some tenderness at all times. This quiescent stage would be interrupted by attacks of swelling and pain which, while always relieved by simple measures, had of late been increasing in number and severity. Patient could offer no explanation for his condition. There was no history of injury and his previous history was negative. Patient was otherwise in good general health. The present attack commenced one week before I saw him, attended by considerable pain and swelling. Pain on pressure was acute and he was unable to lie on the right side. He had been treated by his family physician with applications, without relief.

Examination.—This showed a large swelling at angle of jaw several inches in extent and very tender on pressure. The swelling extended inward to floor of mouth, the mucous membrane of which was very red and painful on pressure. Patient complained of pain on swallowing or talking and speech was thick and indistinct. Breath was foul and his temperature was 100 F. and pulse 96. The course of Wharton's duct could be seen as a tense cord, its mouth bulging and discharging pus. By passing finger along duct considerable pus could be milked out especially after I had enlarged the mouth of the duct by slitting it with a canaliculus knife. The patient obtained considerable relief after pus was thus removed and this was all that was attempted at that time. He was given a purgative and an antiseptic mouth wash and told to report next day. Next day all symptoms and findings were exaggerated so it was decided to widely expose the affected tissue.

Treatment.—At one point a hard swelling that was extremely painful on pressure could be felt about one inch from the mouth of the duct, so it was decided to open it at that point. Suprarenalin-cocain was employed and complete anesthesia was obtained with practically no hemorrhage. After making an opening about one-fourth inch in depth considerable pus was discharged and the swelling at the angle of the jaw diminished. On searching in the bottom of the pocket thus disclosed a hard rough substance was felt that was extracted with some little difficulty by a ring curette. Pressure at angle of jaw resulted in a still further discharge of pus and the swelling practically disappeared. No attempt was made to close the cavity thus formed, but the edges were trimmed away that it might remain open. Healing was very rapid, taking place in about three days. All symptoms were relieved except for a slight induration at the angle of the jaw.

The calculus removed is 1.5 cm. (⅝ inch) long, 0.3 cm. (⅛ inch) thick and weighs 0.26 gm. (4 gr.) The surface is rough and slightly irregular. It is spindle shaped as such concretions usually are.

Patient reported August 18, and saliva is being discharged through natural opening.

The case is one of interest, first, from its unknown etiology; second, from its long duration—five years; third, because of the final infection with abscess formation, and fourth, from the prompt subsidence of all symptoms after operation.

The literature on this subject is extremely scanty, so that a short synopsis of the chief characteristics of these concretions may not be amiss. The stones are composed chiefly of calcium phosphate, with some carbonate and about 5 per cent. of organic matter. They are always of inflammatory origin, according to Kroiss,[1] and traumatism, foreign bodies and glandular secretion play secondary rôles. Kroiss believes that streptococci are the causative elements in the formation of the stones, though the leptothrix[2] has been found. In size they vary from fine sand up to, in Puzey's case,[3] a weight of 7.6 gm. They are commonest in the submaxillary gland and duct, the shape taking the form of the duct in which it lies—being usually spindle-shaped. The early development is unnoticed and usually painless. It is only where obstructive symptoms occur that the swelling, pain and interference with mastication and speech arise. Suppuration is a frequent complication in the later stages and the pus may be discharged through the mouth or externally.

When the stone can be felt in the duct the diagnosis of course, presents no difficulties, but when by repeated inflammation it becomes surrounded by a hard mass of fibrous tissue, when it is imbedded in a foul fungating mass or when the duct is distended to form a ranula the diagnosis may be exceedingly difficult or impossible until an exploratory incision reveals the condition. The condition is to be distinguished from ranula, dermoid cyst and malignant growth, but except as mentioned the diagnosis is usually not difficult. A ranula is distinguished by its tense, thin-walled, semitranslucent, fluctuating appearance as well as by its bluish color. A dermoid cyst is more doughy to the touch, pits on pressure, has often a yellowish color. Projects below the chin in the median line. Is painless unless inflamed.

A calculus can be mistaken for a malignant growth only where a large hard mass presents itself or where the calculus is imbedded in a fungating mass of tissue with foul odor due to continual discharge of pus through the fistula. In this condition incision clears up the diagnosis. The treatment is, of course, operative, preferably through the mouth under local anesthesia and extraction of the concretion with a scoop. No after-treatment is, as a rule, required except simple cleanliness.

Butlin[3] says: "An external incision is only called for in order to excise the outer portion of the submaxillary gland. The incision should run well under the ramus of the jaw, and a ligature be placed at the junction with the inner portion of the gland and Wharton's duct in order to avoid a mucous fistula."

CONCUSSION OF THE BRAIN SIMULATING CEREBRAL HEMORRHAGE.*

CARROLL W. ALLEN, M.D.
NEW ORLEANS.

The following case of concussion of the brain furnishes an interesting clinical history and instructive operative findings:

History.—M., male, aged 25, jockey by occupation, fell from his horse in a hurdle race and it is supposed was kicked in the head. Admitted to hospital March 7.

Examination (ambulance notes).—When first seen the patient was unconscious, respiration stertorous, pulse full, slow and bounding; reacted to painful stimuli on either side; pupils were moderately dilated and unequal; right corneal reflex slower than left. The face was congested and there was a lacerated wound of the scalp over the right parietal bone. On

* A contribution from the surgical clinic of Tulane University.

1. Beitr. klin. Chir., xlvii, 2.
2. Alexander: Revue de Chir., 1906.
3. Butlin: Diseases of the Tongue, Second Edition.

the way to the hospital the patient's breathing ceased to be stertorous and he reached up with the left hand and unbuttoned undershirt. On being pinched, movements of the face were apparently equal. On arrival at the hospital he reacted slightly to painful stimuli in the right leg, but not as freely as in the left leg. The pupils were at this time equal.

March 8 (hospital notes).—Unconsciousness complete; right hemiplegia; right pupil dilated and would not react to light; left pupil normal. Pulse slow (from 65 to 80), full and of moderate tension; respiration slightly labored. Temperature between 99 F. and 100 F. Bowels and bladder acted involuntarily. Patient was able to swallow.

March 9.—Condition about the same except that pulse showed slightly more tension and the temperature was about 0.5 degree higher.

Operation.—On March 9 at 12:30 p. m. operation by Dr. Rudolph Matas was performed under chloroform anesthesia; very little anesthetic was necessary. A curvilinear incision was made in the right parietal region, with the base downward; periosteum was elevated and the bone trephined over the middle meningeal artery. The dura was exposed, artery was found intact and on slightly enlarging the opening no clot was visible. The dura was incised and the brain found fairly normal and slightly bulged into wound; felt tense on pressure. Hemorrhage was controlled during operation by manual pressure at base of flap. The wound was closed with interrupted sutures of silkworm gut and pressure was applied. The head was now turned and a similar operation performed on the left side; when the dura was reached no clot was found, the middle meningeal artery and its posterior branch were exposed, with the trephine and the intervening bridge of bone removed, making an opening between 2½ and 3 inches long. The condition of the dura was the same as on the right side; brain was markedly congested, edematous and under considerable tension. No clot was found. The wound was closed, as on the opposite side, and a pressure bandage applied to the head.

Postoperative History.—March 10, condition the same. On the afternoon of March 11 the patient's temperature went from 99.4 F. to 103.5 F. and the pulse from 96 to 130. The respiration was labored and irregular; large mucus râles over both lungs. The patient was restless and continuously moved the extremities of the left side. Strychnin, digitalis and alcohol were given for stimulation and bromids for restlessness.

March 12.—Condition slightly improved, dressing changed and wounds found healthy, with no evidence of infection.

March 13 to 18.—Condition had slowly improved; the temperature dropped from 102 F. to 100 F. Right pupillary condition had slowly changed, the pupil reacted slightly to light, but did not contract equally with the left. Slight movement had been noticed in the right leg, but no change in the condition of the right arm; the patient had shown some evidence of consciousness, taking notice when fed, but making no effort to speak.

March 19 to 28.—Slow but progressive improvement, temperature dropped to nearly normal and pulse maintained at from 70 to 80. Returning consciousness more evident every day, but no effort made to speak. Right pupil reacted to light, but was not entirely normal. Bowel and bladder movements were still involuntary.

March 31.—Spoke distinctly for the first time.

April 2.—Patient able to talk intelligently and to understand what others said. Could recognize friends, but his mind was still cloudy. Some resistance could be felt on moving the right arm and there were voluntary movements of the right leg.

April 10.—Mental condition and speech had slowly improved; fair control of bladder and bowels.

April 15.—Patient was dressed and helped out of bed; was unable to stand on right leg; was kept in reclining chair.

May 1.—Could stand on right leg, speech fairly good, mind slightly cloudy and still unable to use right arm.

May 20.—Patient left hospital able to walk with stick. Movements still defective in right leg and right arm completely flaccid, with no movements.

While the condition indicated hemorrhage, operation revealed none. The condition of the brain on the side of the injury to the scalp showed no change that could be detected by the eye; on the opposite side, however, a lesion by contrecoup was discovered; the motor area showed marked evidence of contusion being congested, edematous and tense. The long period of coma—fourteen days—with a semi-comatose period of about a week, and the slow return of the faculties, bore evidence to the extreme severity of the injury.

While the patient, unfortunately, passed from observation while yet in a state far from normal, the prognosis as to complete recovery seemed fair. The similarity between the clinical picture presented in this and that of a case of cerebral hemorrhage was very marked.

PLAGUE ERADICATION AND PREVENTION.

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Notwithstanding the many measures that have been directed against plague infection in seaports, its presence continues, so that it is not uncommon to hear the belief expressed that "wherever the disease gains a firm foothold it can not be eradicated." Is it not possible that we have been doing too much in some directions and too little in others? Strict maritime quarantine, general house cleaning and whitewashing, poisoning and trapping of rats, immunization with Haffkine's serum of persons likely to be exposed, isolation of contacts, forbidding of overcrowding, burning of infected districts, etc., have been enforced as well as possible.

It is generally admitted that the principal carriers of infection are the rats and their fleas, but unquestionably there are other carriers, particularly insects. A campaign directed against the principal carriers, when restricted to poisoning and trapping, can accomplish but temporary good. Rats are killed for the reason that "without rats there can be no epidemic." To a very great extent this saying is true, and we should adopt measures to bring about their absence at all times instead of reducing their numbers temporarily by poisons and traps. This can be done by depriving them of food and shelter, both of which are essential to their reproduction. It is neither easy nor inexpensive to render all buildings ratproof and all food sources inaccessible to these rodents, but by systematic work this can be sufficiently accomplished, and we will then have permanent improvements of great value.

Ports and places in constant communication with plague-infected locations should be protected not only by maritime quarantines but by effecting the above-named permanent improvements. The history of plague indicates that maritime quarantine alone is inadequate to protect a port; and the same may be said of nearly all epidemic diseases. The necessity for special sanitation in seaports, in addition to the precautions so well enforced by maritime quarantines, is shown by the fact that it is not always possible for the quarantine inspection to detect incubating cases or individuals recuperating from an attack, although such patients are very apt to carry the contagium to their new abode. Furthermore, infected rats and insects may, and doubtless do, escape detection by concealment in boxes and packages of cargo. The occasional introduction of a few infected rats or persons into a practically rat-free seaport would

probably be attended with but little danger to the community if the suctorial and scavenger insects do not abound.

The precautions taken by maritime quarantines in the case of all epidemic diseases should be supplemented by better seaport sanitation, and in respect to plague it is essential not only to restrict the food supply and shelter of rats and insects but to keep them away from human habitations and foods. The scope of such prophylactic work may be stated as follows:

First: The water front can best be made uninhabitable by plague carriers by having the wharves built out from a solid sea wall and in the use of wire netting about the under surface and other parts of the piers so that rats can not effect lodgment and reach the food stored thereon. The pier houses also should be rendered ratproof. The greatest difficulty lies in rendering existing wharves ratproof, especially when the shore line is not altered by a sea wall. The details must depend on the conditions about each wharf. Rat guards on a vessel's moorings are insufficient for obvious reasons.

Second: Buildings, particularly residences, restaurants, markets, butcher shops, grocery stores, stables, warehouses and other places where food is obtainable should be given special attention in order to render them rat and insect-proof. It is best in the case of dwellings, especially tenements, to abolish any spaces between the ceilings and the floor above, as well as between and on the walls, wherein rats, bedbugs, cockroaches, ants, etc., could live and breed, or else, in cold climates where plastered walls are necessary, to close and isolate such spaces by wire netting. Pantries, kitchens and storerooms should be made rat and insect-proof, and cellars concrete or tiled in order to prevent burrowing and the formation of breeding places. Other buildings and places, like wooden sidewalks and streets, should be denied rats as places of shelter.

Third: Garbage barrels, buckets and dumping grounds are common sources of rat and insect foods and should be so arranged as to exclude them.

Fourth: Sewers, which so frequently constitute excellent places for rats and insect runs, should be frequently flushed to remove articles of food, and all holes wherein rats could live and breed should be concreted.

Fifth: Open lots and tide-lands are often frequented by rats and should be given all possible attention.

Sixth: All vessels, including those that ply about the harbors, rivers and canals, as well as the ocean-going vessels, should be kept free from rats and insects by systematic fumigation with carbon monoxid or sulphur dioxid.

Such, in general, are the measures best calculated to protect a port of entry and the many inland water places in daily communication with it from becoming plague centers. These sanitary improvements would not only be of use against plague and other diseases but would eliminate the pecuniary loss which rats and insects cause by eating and otherwise damaging goods and buildings.

Regarding the disposition of rats that would be excluded from their habitats by such measures, it is believed that suitable cellars and rooms could be converted into large traps well supplied with food, water and straw to attract them. At regular intervals they could be killed with sulphur dioxid. The bounty system, if protected against abuse and not considered too expensive, might be tried.

Respecting the eradication of plague, I believe that many of the measures, such as general house-cleaning and whitewashing, fumigation of buildings, isolation of sick and contacts, and burial of the dead in lime, are unnecessary, although general house-cleaning and whitewashing of tenements are desirable in the interest of general sanitation.

In addition to the exclusion measures against rats and insects referred to above, which are essential, the floors, stairways and baseboards of buildings in the infected districts should be frequently and thoroughly oiled with kerosene for the purpose of killing fleas and any infection that may have been deposited by persons, rats or insects, as well as to make the places disagreeable to infected insects or insects carrying infected material, like ants, that otherwise would frequent them. In the infected districts the doors and windows should be screened to keep out flies, cockroaches, mosquitoes, black gnats and other insects capable of obtaining infection from sick persons or their excreta and carrying it to others or their foods; and the breeding places should be restricted as much as possible.

It is highly desirable to disinfect the clothing and bedding of persons living in the infected districts for the purpose of killing lice and any other insect which might be a probable source of plague contamination, but this can seldom be done satisfactorily because people object and, therefore, circumvent the health officers. The remodeling of buildings to prevent overcrowding and darkness, while very desirable on the score of general sanitation, is unnecessary as an antiplague measure unless it is required in rendering the places rat and insect-proof.

When the rats are infected it is far more desirable to capture them and their fleas by a corps of trappers than poisoning, which only enables us to get the dead rats without the fleas, or by the bounty system, which unduly exposes the general public to infection. The use of other small animals as flea traps in infected houses might be useful in some cases, but this method is both dangerous and expensive. "Tanglefoot" traps baited with fresh beef would probably be as effective, but it is believed that kerosene oiling, if thorough, would be adequate. Along with the suppression of plague in a port of entry it is highly important to institute measures not only for the protection of the towns along the harbor, sound and internal waterways, but also to determine whether such towns have not already become infected. Keeping the small craft that so frequently ply between such towns and the port free from rats and insects, together with the measures for rendering the towns uninhabitable by rats, would be the best prophylactic plan. To determine whether or not any of the towns are infected, rats should be examined bacteriologically, and careful supervision of the human deaths occurring should be guaranteed. Above all, this investigation should be carried on during the proper season of the year and not when the disease is apt to be latent.

This plan appears to be—and is—a big undertaking. But who can deny the necessity for it? If no such preventive measures are taken, interior points are certain to become infected, and although the seaport may be temporarily or apparently free from the disease and be guarded by a most proficient maritime quarantine, it will nevertheless receive new infections from the neglected or unsuspected interior points. Not only will this occur, but the infection is likely to spread to the gophers, moles, etc., inhabiting the fields, thereby rendering eradication well-nigh impossible. In such cases, however, it is probable that the best plan would be to plough up the fields and shoot the animals as they are

driven from their holes and hiding places. A preliminary burning of the grass and brush might be necessary.

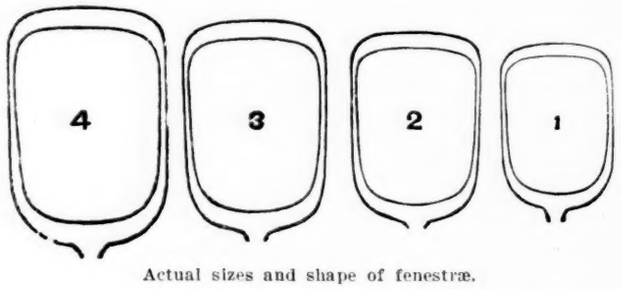
Countries especially interested in the eradication and prevention of plague should adopt the policy of rendering their seaports practically uninhabited by rats; and steamship companies affected by the quarantine restrictions necessarily placed on their traffic on account of the prevalence of plague would gain a great deal by the consummation of such a policy.

The admirably accomplished international cooperation in the campaign against yellow fever should guide us in our campaign against the plague, and as the yellow fever countries already have a working organization they could advantageously take up the plague situation at once and secure the united cooperation of Asiatic plague countries.

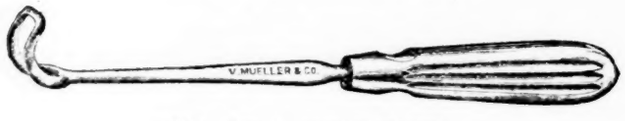
A MODIFIED ADENOID CURETTE.*

J. F. BARNHILL, M.D.
INDIANAPOLIS.

I recently read a paper before the Southern Section of the American Otological, Rhinological and Laryngological Association advocating the removal of adenoids by one sweep of the curette and without the employment of a general anesthetic. Since this paper will soon be published, and since the plan there suggested is easily misinterpreted unless the instruments are inspected, I desire to show the exact method of using them.



Actual sizes and shape of fenestræ.



Side view of curette reduced.

Note the narrow shanks viewed at distal ends, and the width of same when viewed in profile. Note very narrow rectangular cutting blade.

I have so modified the shanks and cutting blade of the Beckman curette that the shanks will occupy practically no space when the instrument is inserted into the nasopharynx. The cutting blade has been so much narrowed that it occupies the minimum of antero-posterior space. The height of the fenestra is also greater than in the Beckman curette. All these changes have a most practical bearing, and it is not possible to remove the hypertrophy completely at one sweep of the instrument unless such a construction is followed. Four sizes of curette are necessary to meet the requirements of all cases.

I maintain that the word adenoid and not adenoids should be used in speaking of the individual case, for the reason that the whole hypertrophy is attached to one base, and, therefore, while there are commonly five or more lobes, there is only one adenoid.

The instrument here illustrated is intended to fit accurately around the whole adenoid and to sever it at its base of attachment. The technic of removal is as follows:

If the patient be a child it should be taken on the lap of a strong assistant, the hands of the child should be held against its abdomen by the first assistant, and a second assistant should hold the head so that there is no possibility of its moving. The adenoid curette is placed behind the palate in the ordinary way and at an angle of 45 degrees; the anterior part of the curette is pressed firmly against the uppermost part of the septum, and the shank of the instrument lifts the uvula; in this position one sweep downward removes the whole adenoid, which falls from the mouth of the child as soon as its head is held forward. The operation is simple and can be done in a few seconds as I have described, provided the operator has selected the proper width of instrument for the particular case. Before selecting the adenoid curette for a given patient it is necessary to determine accurately the width of the child's nasopharynx, then to select the largest curette that will enter that child's nasopharynx with a moderate amount of crowding. If a curette is used that does not touch the lateral walls of the child's pharynx rather firmly during the introduction it will be too small, will not surround the entire mass of adenoid, and will, therefore, cut away only a part of the hypertrophy. In many instances the largest of the four curettes may be used in a child 8 years of age. The Eustachian orifices are not harmed with this instrument when properly used. Indeed, the shanks of an instrument wide enough to touch the nasopharyngeal lateral walls, if pushed backward, will push aside the lips of the Eustachian tubes, and Rosenmueller's fossa can then be cleaned out without the necessity of a side-cutting instrument. Using this method, it is not necessary to put the finger into the nasopharynx afterward or to make more than one sweep of the instrument; if the whole mass has been surrounded one sweep will certainly cut it out, and there is no more occasion for placing the instrument in the nasopharynx the second time than there would be for reinserting a tonsillotome or a guillotine several times to remove a faucial tonsil. There is no hypertrophied tissue left in the vault of the pharynx after the correct sweep of a properly constructed and carefully selected curette.

* Read in the Section on Laryngology and Otology of the American Medical Association, at the Fifty-eighth Annual Session, held at Atlantic City, June, 1907.

A CASE OF MIGRATION OF FOREIGN BODY IN THE TISSUES.

E. R. BARTON, M.D.
FRAZEE, MINN.

I report this as an authentic case of migration of a foreign body in the tissues. It is especially interesting because of the length of time the foreign body resided therein.

History.—Mrs. O., aged 35, gave a history of cutting her thumb with a piece of glass when she was 10 years old. At various times since, a small, red protuberance has appeared, at first near the scar, but gradually farther away. About two weeks before I saw her this small tumor appeared about one inch from the site of the original scar, nearly over the second joint. I removed a small spicule of glass about ⅛ inch long, very sharp and pointed, from just beneath the skin.

New and Non-Official Remedies

THE FOLLOWING ARTICLES HAVE BEEN TENTATIVELY ACCEPTED BY THE COUNCIL ON PHARMACY AND CHEMISTRY OF THE AMERICAN MEDICAL ASSOCIATION FOR INCLUSION IN THE PROPOSED ANNUAL, "NEW AND NON-OFFICIAL REMEDIES." THEIR ACCEPTANCE HAS BEEN BASED LARGELY ON EVIDENCE SUPPLIED BY THE MANUFACTURER OR HIS AGENT, BUT TO SOME EXTENT ON INVESTIGATION MADE BY OR UNDER THE DIRECTION OF THE COUNCIL. CRITICISMS AND CORRECTIONS ARE ASKED FOR TO AID IN THE REVISION OF THE MATTER BEFORE FINAL ACCEPTANCE AND PUBLICATION IN BOOK FORM.

THE COUNCIL DESIRES PHYSICIANS TO UNDERSTAND THAT THE ACCEPTANCE OF AN ARTICLE DOES NOT NECESSARILY MEAN A RECOMMENDATION, BUT THAT SO FAR AS KNOWN IT COMPLIES WITH THE RULES ADOPTED BY THE COUNCIL.

W. A. PUCKNER, SECRETARY.

(A list of all accepted articles is published on one of the advertising pages of The Journal in the first issue of each month.)

(Continued from page 1117.)

APIOL.

APIOLUM CRYSTALLISATUM. PARSLEY CAMPHOR.

Apiol, $CH_2{:}CH.CH_2.C_6H(OCH_3)_2{:}O_2{:}CH_2 = C_{12}H_{14}O_4$, is 2,5-dimethoxy-3,4-methendioxy-1[2]propenylbenzene, derived from 2,3,4,5-tetrahydroxy-1-propen (1[2])yl-benzene, $C_6H(OH)_4(CH_2CH{:}CH_2)$.

Apiol may be obtained by extracting the oleoresin (oleoresin of parsley seed, which see) with ether and subsequent purification. It may also be obtained by submitting parsley seed to steam distillation, cooling the volatile oil and collecting and purifying the crystals which separate.

Apiol crystallizes in long needles, having a faint odor of parsley, melting at 30 C. (86 F.) and boiling at 294 C. (561.2 F.). It is insoluble in water, but readily soluble in alcohol and ether. With strong sulphuric acid it forms a blood red solution. Apiol is not affected by aqueous solutions of potassium or sodium hydroxide, but by alcoholic solution of potassium or sodium hydroxide it is gradually converted to isoapiol, which melts at 56 C. (140 F.).

Actions and Uses.—Apiol is said to produce a cerebral excitation very similar to that induced by coffee and in larger doses a species of intoxication, with vertigo, ringing in the ears and severe frontal headache.

Apiol has been used as an antiperiodic, but is regarded as of inferior rank for this purpose. It has also been recommended in the treatment of amenorrhea.

Dosage.—0.13 to 0.3 Gm. (2 to 5 grains) in capsules, as an emenagogue, 0.3 to 1 Gm. (4 to 15 grams) as an antipyretic.

CHOLOGESTIN.

A liquid of which each 15 Cc. (4 fluidrams) is said to contain the amorphous sodium salt of glycocholic acid, 0.13 Gm. (2 grains); true sodium salicylate from the natural oil of wintergreen, 0.16 Gm. (2½ grains); pancreatin, 0.3 Gm. (5 grains); sodium bicarbonate, 0.3 Gm. (5 grains) in a menstruum containing 15 per cent. alcohol.

Actions and Uses.—Chologestin is claimed to be a biliary and intestinal antiseptic. It is said to increase the flow of bile and to aid in the digestion of fats. It is said to be useful in the treatment of flatulence, distension, catarrhal conditions of the biliary passages and constipation due to hepatic torpor.

Dosage.—15 Cc. (4 fluidrams) in water or other non-acid vehicle three times a day after meals.

Prepared by F. H. Strong Co., New York. U. S. trademark No. 61767.

DIAZYME ESSENCE.

A liquid stated to contain the amylolytic enzyme of the pancreas, devoid of trypsin and lipase in a menstruum containing 18.5 per cent. of alcohol by volume.

Diazyme essence is an amber fluid of aromatic taste and odor and slightly acid reaction.

One Cc. will convert 200 Gm. of pure starch mucilage, containing 8 Gm. of dry starch, the mixture being kept at 40 C., so that the solution will cease to give a color reaction with iodine at the end of ten minutes.

Actions and Uses.—Diazyme is capable of digesting starch and is said to be useful to compensate for deficient salivary and pancreatic action in the digestion of starch.

Dosage.—4 to 8 Cc. (1 to 2 fluidrams).

Manufactured by Fairchild Bros. & Foster, New York. U. S. trademark No. 44878.

DIAZYME GLYCEROLE.

A liquid stated to contain the amylolytic enzyme of the pancreas, devoid of trypsin and lipase, in a menstruum containing about 60 per cent. of glycerin by volume.

It is a dense amber fluid, of agreeable taste and odor, and of slightly acid reaction.

One Cc. will convert, at 40 c., 200 Gm. of pure starch mucilage, containing 8 Gm. dry starch, so that the solution will cease to give a color reaction with iodine in 10 minutes.

Actions, Uses and Dosage.—See Diazyme Essence.

Manufactured by Fairchild Bros. & Foster, New York. U. S. trademark No. 44878.

EMULSION CLOFTLIN.

EMULSUM OLEI MORRHUÆ CLOFTLIN.

Each 30 Cc. (1 fluidounce) is said to contain calcium hypophosphite, 0.4 Gm. (6 grains); manganese hypophosphite, 0.2 Gm. (3 grains); glycerin, 3 Cc. (50 minims); cod liver oil, 15 Cc. (4 fluidrams).

Dosage.—15 Cc. (4 fluidrams).

Prepared by the Cloftlin Chemical Co., New York.

OLEORESIN OF PARSLEY SEED.

OLEORESIN APII. APIOL, GREEN.

An oleoresin obtained from parsley seed by extraction with alcohol.

Parsley seed is extracted with alcohol, the alcohol recovered, and the liquid portion of the residue freed from the solid waxy matter which separates on standing.

Oleoresin of parsley seed is a greenish, oily liquid, insoluble in water, but soluble in alcohol, ether, and chloroform. Sp. gr. about 1.05.

Actions and Uses.—See Apiol.

Dosage.—0.3 to 1 Cc. (5 to 15 minims) in capsules.

REGULIN.

A mixture of agar-agar in a dry form with extract of cascara sagrada representing 20 per cent. of an aqueous fluidextract of cascara sagrada.

Regulin is in the form of brown scales which slowly absorb water to form a jelly. It is odorless and tasteless.

Actions and Uses.—When taken into the stomach, regulin absorbs water which is said to be retained throughout the intestinal canal, and, as the material is indigestible, the bulk of the feces is increased to correspond to the amount of water absorbed. It is non-irritating and softens the fecal masses. Some laxative action is exerted by the cascara sagrada.

Regulin is recommended for the treatment of habitual constipation.

Dosage.—From a teaspoonful to a tablespoonful once daily in stewed apples, mashed potatoes or similar food.

Prepared by the Chemische Fabrik, Helfenberg, A. G., near Dresden, Germany. (Reinschild Chemical Co., New York.)

TANPHENYFORM.

Tanphenyform is a mixture said to be composed of tannin albuminate 63.9 parts (approximately equivalent to tannin 35 parts), hexamethylenamine 8.3 parts, phenyl salicylate (salol) 27.8 parts.

Dosage.—0.6 to 2 Gm. (10 to 30 grains) 3 to 5 times a day. It is supplied in the form of a powder and also in 5 and 10 grain capsules.

Prepared by Wm. R. Warner & Co., Philadelphia.

(To be continued.)

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[*For other information see second page following reading matter.*]

SATURDAY, OCTOBER 19, 1907.

THE RELATION OF TRAUMA TO TUMOR FORMATION.

Concerning the relation of antecedent trauma to the genesis of tumors there exists the most remarkable difference of opinion, for there may readily be found statements varying from that of Herzfeld,[1] who advances the dictum, "No tumor without trauma," to the view recently expressed by Councilman,[2] that the theory of traumatic etiology of tumors "has much the same footings as does the theory of maternal impressions as a cause of malformation. In both there are many striking coincidences." Surely either one of these two views must be as extreme as the other. To compare the hypothesis that in some cases tumors are the outcome of trauma, with the belief in maternal impressions as a cause of fetal malformations, is scarcely justifiable, for while we have the most conclusive reasons, based on sound anatomic and physiologic grounds, for denying that an anatomic abnormality of a fetus can be the result of a mental impression received by its mother, there is no similar ground for denying the possibility that a tumor may be the result of a trauma. Furthermore, fetal malformations can generally be explained as the result of purely local causes, which excludes the maternal impression view, whereas in the case of tumor formation the situation is entirely different in that there is no known anatomic or physiologic reason why tumors should not result from trauma. It is a commonly accepted view that tumors represent merely an unlimited excessive proliferation of the cells of fixed tissues, and there is nothing fundamentally improbable in the hypothesis that under certain conditions the proliferation which begins in the repair of an injury may pass beyond normal bounds and show the characteristics of the proliferation of a tumor. Even the most zealous advocate of the view that tumors may result from trauma appreciates that in proportion to the innumerable injuries which every animal organism is constantly receiving the occurrence of tumor as the result is a most unusual thing; therefore, the fact that it has not been found possible to produce tumors in animals by experimental means can not be considered as an argument against the hypothesis.

It is generally recognized that there are two methods for research in tumor pathology, one being study through animal experimentation, and the other the statistical method. The problem of the relation of tumor to trauma is one that, in the present state of things, must be studied in the clinic, and our information must come from statistical information based on clinical observations. Several such studies of this topic have been reported, and the evidence that has been so far collected does not support the extreme view of Herzfeld that every tumor is the result of trauma, for it is but comparatively seldom that patients with malignant tumors give a history which would cause a careful critic to believe that the tumor had been the outcome of the proliferation which had been incited by a trauma, received at the point where the tumor subsequently developed. On the other hand, there are many instances in which it would require an abnormal degree of skepticism to refuse to admit the probability that a trauma had been the exciting cause of a tumor. In these statistical studies there may be found much evidence in favor of the prevailing opinion that chronic irritation not infrequently gives rise to a carcinoma, whereas a single, more severe trauma occasionally results in sarcoma formation. The reason for this difference is probably that chronic irritation most often affects superficial, epithelial-covered surfaces, while more severe trauma is required to injure the fascia, periosteum and bones, in which tissues sarcoma most often develops.

But at the worst the sequence of malignant growth on some manifest trauma is an extremely uncommon event, as shown by the statistics that have been so far compiled. Of 713 tumors examined in Bruns' clinic, only 19 could be attributed to preceding trauma, and among the 584 of these that were malignant only 14 were post-traumatic. Röpke[3] found in the records of the surgical clinic at Jena only 19 out of 800 cases of carcinoma that seemed to have resulted from a single trauma, although there were many more showing a relation to chronic trauma. Of 189 cases of sarcoma there was evidence of chronic trauma in 28, and to a single trauma in 19. Geinatz found in the reports of 1906 cases of neoplasm, both benign and malignant, 233 in which a relation to preceding trauma could be shown. Loewenstein[4] found among the records of 489 cases of sarcoma observed in the Heidelberg clinic only 19 in which the tumor seemed to be the result of a single trauma; he also collected 111 similar cases from the literature, which is but a small number of those which have been recorded, and analyzes the clinical records. In nearly all these 130 cases the history is so explicit in establishing the sequence of the sarcoma on a definite injury that there is little room for doubt that the tumor must be considered as a result of the trauma, which in most of the cases was of some considerable degree of severity. Surely it is difficult to believe that all these 130 cases, besides the innumerable similar cases that have been ob-

1. Ztschr. f. Krebsforschung, 1905, iii, p. 72.
2. Boston Med. and Surg. Jour., Sept. 5, 1907, p. 313.
3. Arch. f. klin. Chir., 1906, lxxviii.
4. Beitr. klin. Chir., 1906, xlviii, p. 780.

served all over the world by physicians and surgeons but not recorded, represent merely fortuitous instances of trauma implicating a part in which a sarcoma was just beginning to grow at the time of the accident. It seems much more reasonable to accept the view that the proliferation incited in the tissues by the trauma has failed to cease when the injury has been repaired, but has continued without regard to normal physiologic and anatomic limitations in the form of a malignant neoplasm.

THE AFTER-CARE OF THE INSANE.

The movement in this country for the aid of patients discharged from insane asylums was recently outlined[1] by Dr. William Mabon, of the Manhattan State Hospital for the Insane. This work only recently has received attention in the United States, though for many years it has been carried on in certain European countries. Many patients discharged from our hospitals as cured are in need of help and advice which hitherto has been unprovided. Thrown on the world with few if any resources, at a peculiarly critical period, the subject of unfair and harassing suspicions, they too often find the circumstances of life too much for their unstable equilibrium, or drift back into old ways and associations that are likely to end in a repetition of the former breakdown, and thus the individual will lose another section of life and again become a charge on the community.

Interest in this question was aroused through the work of Wise, Dewey, Stedman, Miss Schuyler and others, and the result was that in January, 1906, at a conference of the New York State Commission of Lunacy with the managers and superintendents of the state hospitals, a resolution was adopted requesting the State Charities Aid Association to organize and put into practical operation a system of after-care for the insane of the state. This suggestion was immediately adopted, the committee on the insane appointing a subcommittee to carry into effect this resolution. The work, under the direction of the subcommittee of the State Charities Aid Association, was assigned to special committees for each district, composed of the visitors of the association to the state hospitals, with others added as occasion requires, together with two or more managers appointed by each hospital board and the superintendent of the hospital. The expenses of the work are met by making use of the fund established by the state to provide suitable clothing and twenty-five dollars in cash for each destitute patient who is discharged, and by cooperation with other charitable organizations, and by voluntary contributions. A commission of this nature was established last year, when the Manhattan After-Care Committee of the State Charities Aid Association was organized, and since then committees for the other districts of New York State have been formed and have commenced operation.

The work undertaken by these committees is of great benefit to the individual and must result in far-reaching influence on the community. The committee keeps in close touch with the hospital and before the discharge of a patient, who may need assistance, it is furnished with the home address of the patient and other information which may prove of value in undertaking the work. A visitor of the committee then goes to the home of the patient, investigates the surroundings, and advises with the family as to the proper course to be pursued. Often it is found advisable to remove the home to some other district, where the surroundings and associations will be different and where the patient will not be known as a discharged lunatic. At times there is no home to which the patient can return and the committee must provide some place of residence until the patient is able to shift for himself. Much is done in finding suitable occupation for these people. In this way, many patients who would previously have been turned over to the Department of Public Charities are given a new start in life. They are followed and urged to return regularly to the hospital during the period of probation. The work of these visitors has been found to do much toward establishing relations of confidence between the hospital authorities and the patients and their families. The advice of laymen not directly connected with the hospital is welcomed by them as unprejudiced opinion, and through their influence patients are often persuaded to keep in touch with their old ward physicians and go to them for advice instead of relying on their own judgment or fancies. Speaking of the influence of the home visitor, who, by the way, was not an unknown factor before the organization of after-care work, Dr. Adolph Meyer remarks: "The timely advice and mere feeling of responsibility carried by the realization that somebody takes an interest, has proven to have a decided influence in pulling former patients out of discontent, and the healthy members of the family out of a harmful attitude of suspicion of relapse and lack of confidence in the patient."

The importance of this after-care work is fully realized by alienists and neurologists, and steps are being taken to extend it. The movement deserves the hearty support of the profession and when its importance is realized it will doubtless receive the support of the public.

1. Amer. Jour. of Insanity, July, 1907.

THE DOCTORATE OF PHILOSOPHY IN THE MEDICAL SCIENCES.

A short time ago we published a suggestive article,[1] pointing out the desirability of the establishment in the best equipped universities of courses leading to the degree of doctor of philosophy in the special branches of medical science. As was pointed out by the author, it

1. Shambaugh, (George E.): The Preparation of the Specialist, THE JOURNAL A. M. A., Aug. 17, 1907.

is expected of the man who would reach the highest success in the exact and natural sciences that he devote a term of years doing graduate work in his special subject, until he has earned the degree of doctor of philosophy, which is an acknowledgment of his having received adequate training in and is sufficiently familiar with the history and progress of his specialty to enable him to keep abreast of its future progress and to make for himself contributions to its growth. It is certainly not asking too much of the man who would specialize in a particular field of medical science that he prepare himself as thoroughly as the physicist or the chemist, and the universities should be ready to afford the opportunity to the aspiring candidate who seeks to do this. The first start in this direction has already been made by the rapid increase in the number of universities and colleges which are giving courses in the fundamental medical branches under exactly the same conditions as are conducted their courses in physics or zoology. As a result, there are now several institutions of the highest standing in which a student may receive the doctorate of philosophy, not only in bacteriology, physiology and physiologic chemistry, which branches have been established as science courses independent of medical connection for some years, but also in human anatomy and in pathology.

The following table, reprinted from the annual summary published by *Science*[2] this year, is of interest in this connection. The figures are the total number of degrees given in each branch of science by all the American universities during the past ten years:

DOCTORATES CONFERRED IN THE SCIENCES.

	1898.	1899.	1900.	1901.	1902.	1903.	1904.	1905.	1906.	1907.	Total.
Chemistry	27	32	26	28	27	33	35	36	38	38	320
Physics	11	7	15	24	12	14	17	14	19	22	155
Zoology	12	11	11	15	16	12	15	15	22	18	147
Psychology	18	15	9	13	8	18	10	21	12	10	134
Botany	11	11	12	8	12	9	17	15	16	15	126
Mathematics	11	13	11	18	8	7	13	20	9	11	121
Geology	6	5	5	10	6	10	7	4	11	7	71
Physiology	4	1	4	1	8	8	1	3	3	8	41
Astronomy	3	2	4	5	2	4	4	3	4	3	34
Paleontology	0	4	2	1	0	2	2	3	2	0	16
Bacteriology	0	1	1	1	1	3	3	0	1	3	14
Anthropology	2	0	2	1	0	1	2	1	0	1	10
Agriculture	0	0	0	0	2	2	2	2	0	2	10
Anatomy	0	1	0	1	0	4	0	0	0	3	9
Engineering	0	0	0	1	0	3	1	3	0	0	8
Mineralogy	0	2	0	0	1	1	0	1	1	0	6
Pathology	0	0	0	0	0	3	0	0	1	1	5
Metallurgy	0	0	0	0	0	0	0	1	1	1	3
Geography	0	0	0	0	0	0	0	1	0	0	1
Meteorology	0	1	0	0	0	0	0	0	0	0	1
Total	105	106	102	127	103	134	129	143	140	143	1232

It will be seen that in comparison with chemistry and physics the degrees conferred in the branches related to medicine are but few in number, physiology leading with forty-one, bacteriology following with fourteen, anatomy with nine and pathology with five. Among the titles of the doctorate theses may be found several that show the influence of a medical faculty, such as "The Parasitic Amebas of the Intestinal Tract of Man and Other Animals," "The Mechanism of Streptococcus Immunity," and "The Action of Sunlight on Bacteria with Special Reference to Tuberculosis;" while several other papers refer to matters of interest in human anatomy and physiology. It would seem, therefore, that a start has been made toward the goal pointed out by Dr. Shambaugh, and if we consider the marvelous change that has come into the spirit of the relation of the universities to the medical sciences within the last half dozen years, there is much reason to hope that university training of medical specialists is not of necessity a mere glittering dream. Everywhere in the country colleges and universities are establishing chairs in the fundamental medical sciences, creating a demand for men with a university training to fill them. In the medical schools the specialist in physiology, anatomy, pharmacology, and pathology is displacing the teacher whose training has been only in general medicine. As the number and standing of these positions increase it will become worth the while for young men to prepare themselves for them, and the number of doctorates in the fundamental sciences of medicine will increase in direct proportion to the inducements offered to men to receive the training this degree implies. The establishment of similar graduate courses in the practical branches of medicine will come later as a logical development, unless some university has the enterprise to see and to appreciate its opportunity and blaze its own trail direct to the goal of the medical educator.

2. Doctorates Conferred by American Universities, Science, Aug. 30, 1907.

THE POLIOMYELITIS EPIDEMIC.

There is at present and has been for the past few months an active epidemic of poliomyelitis in New York City which for richness of clinical variation of multiplicity of development has not been seen for many years. In fact, New York City has not had a severe epidemic of this disease and it is only occasionally that any opportunity has been offered the neurologists and pediatrists of the city to observe the beginning symptoms of this comparatively rare disease.

Coming immediately on the top, as it were, of the epidemic of cerebrospinal meningitis with which New York was afflicted last year, certain factors of etiology and relationship have been prominent in the minds of clinicians which have stimulated research in different lines. So far as the etiology of the present epidemic is concerned, nothing has been revealed, unless the negative evidence be regarded in the light of discovery. A large number of lumbar punctures have been made for diagnostic purposes, and up to the present time the results have been negative. From the Rockefeller Institute, where perhaps the greatest number of studies have been made, Dr. Flexner reports that bacterial cultures, both in aërobic and anaërobic media, have given no results; the cerebrospinal fluid is sterile; a further study of the morphology of the fluid reveals no inflammatory products such as are known in meningitis, in tabes, in paresis and in acute inflammatory reactions in the men-

inges. The evidence from the leucocytic formula in the blood is not much more positive. Studies made at Mt. Sinai Hospital on the blood show only a moderate amount of leucocytosis in a number of the cases. Many bloods are normal in spite of very evident and frank signs of extensive involvement of the spinal cord.

The clinical experience of the disease as now existing in the city tends largely to amplify the present conceptions of many clinicians who heretofore have been conversant more with the types made classical by the studies of Duchenne of Boulogne and by Charcot and his pupils. Medin of Stockholm and more recently Wickman, in an important monographic study, have both spoken of a number of features which have come prominently to the fore at this time. Thus it has not been unusual to encounter very severe forms of the disease with death and also a large number of exceedingly mild cases. In the New York Hospital, the Babies' Hospital, Mt. Sinai, Bellevue and other institutions a disproportionately large number of rapidly fatal cases have been observed; in these cases the involvement of the nuclei in the medulla has caused the rapid death. On the other hand, the experiences of nearly all the neurologists and pediatrists and orthopedists who have been observing these cases this summer are in unison in finding a large number of patients with very mild symptoms, and among children in whom a large involvement has been noted the number of recoveries has been phenomenal. At a recent meeting of the pediatric section of the New York Academy of Medicine cases were reported in which there was involvement of all four extremities and some of the nuclei of the medulla. In these cases many patients showed absolute paralysis of the entire body, including a loss of vesical and rectal power, and paralysis of the eye muscles or muscles of the face, and yet complete recovery was established within six or eight weeks. The experiences of orthopedists at the Hospital for Ruptured and Crippled, where over 300 cases have been reported, bears out this feature of this as well as of other epidemics.

Many of the present cases have presented special features of diagnostic difficulty. This has been particularly true for a number in which the onset has been accompanied by meningeal symptoms. There have been excessive headache, photophobia, intense rigidity with excruciating pain in the back of the neck and pains in the joints and tendons. In the early stages these patients have been considered as having cerebrospinal meningitis, and only after the third or fourth day has a positive diagnosis been possible. In many of these patients the paralytic symptoms have been markedly delayed, in some instances appearing as late as from the fifth to the eighth day after the initial onset. Marked hyperesthesia and pain have been present in many cases, possibly due to a certain amount of mild infiltration about the sensory nerve roots. Bladder and rectal difficulties have not been infrequent. Some of the features of a neuritis have accompanied some of this latter class of cases and suggest the possibility, already touched on by Medin, of a neuritic complication. In fact, the toxemic element in a number of the New York cases has been a striking, if not at times perplexing, feature.

The therapeutics of the affection has not yet been so hopefully brought out. Hot baths, with rapid urinary and fecal elimination, seem to give the best results. Counterirritation by means of ice-bags to the head and spine, or by mustard pastes, has been extensively used in the present epidemic. It is certain that the hot water baths are useful, relieving the pain and usually quieting the little patients very rapidly. Absolute rest is imperative, and it has been advised that active measures for the paralyzed limbs should not be undertaken too rapidly or too energetically.

A thorough investigation of the epidemic is under way under the auspices of the New York Neurological Society and pediatric section of the New York Academy of Medicine, and with the resources of the Rockefeller Institute and the large hospital laboratories it is reasonable to believe that important additions may be made to our present knowledge of this affection.

ALCOHOL AND PHYSIOLOGY.

As might perhaps have been expected, the perennial alcohol question came up before the physiologic section of the British Association for the Advancement of Science[1] at its late meeting—in fact, it was selected as the subject of general interest, which it has been the custom to discuss at each session for the past few years. As a dispassionate discussion of the subject, it was, as the correspondent of *Nature*, in his report of the meeting, says, all that could be desired, and the most remarkable feature in connection with it was the very narrow margin which separated those who took different views as to the value of alcohol. On the whole, however, the advocates of alcohol can hardly claim that the weight of physiologic opinion was very much in their favor. The results of ergographic tests of the effects of alcohol, as presented by Drs. Rivers and Waller, admittedly supported the contention of Sir Victor Horsley that the ergograph gives results too uncertain to be entirely depended on, being markedly affected by the psychic influences. There was a unanimous agreement that alcohol, even in the smallest amounts, is deleterious to the quality of mental work, and it was conclusively shown that alcohol lowers the resistance of the organism to a certain toxic body acetonitril. As regards the question whether or not alcohol can be considered a food, the impression left on the mind is said to have been that it is very largely a matter of definition. Alcohol is undoubtedly oxidized in the body, yielding a corresponding amount of energy, and in that sense is a food. But such a definition includes other substances, like morphin, which are clearly injurious. To prove alcohol a useful food, it must be shown that it can be safely given in

1. THE JOURNAL A. M. A., Aug. 24, 1907, p. 706.

amount sufficient to supply an appreciable proportion of the energy of the body. This, it appears, was not considered as demonstrated. This would probably be the verdict of any body of scientific physiologists discussing the subject from an unprejudiced point of view. Some curves exhibited by Sir Victor Horsley at this meeting showed a marked decrease in the use of alcohol in English hospitals since 1872, and in more recent years also in the special treatment of fevers and seem to indicate, so far as they go, a changing medical view of the medicinal value of this agent.

THE QUARTERLY JOURNAL OF MEDICINE.

It was recently announced that a new journal bearing this title would shortly be issued in London under the editorship of Drs. William Osler, J. R. Bradford, A. E. Garrod, R. Hutchison, H. D. Rolleston and W. Hale White. One might think the field of medical journalism already rather full, but that is only because the serial medical literature of to-day has gravitated more and more away from the archive type toward that of the newspaper. It was therefore thought that there was not only room, but an actual necessity, for a journal dealing with clinical medicine more comprehensively and in greater detail than has hitherto been the rule, on lines made familiar by the *Zeitschrift für klinische Medicin* or the long since defunct *British and Foreign Medico-Chirurgical Review*. A copy of the first issue of the promised journal, dated October, 1907, now lies before us, and a good idea of the ground the editors plan to cover will be obtained from its table of contents.[1] Besides the text, there are many half-tones, tracings, etc., and two excellent colored pictures illustrating the article by Dr. Osler on telangiectases. A perusal of the pages leaves little room for doubt that this periodical is destined to take a front rank in the higher literature of medicine and to do much toward rehabilitating internal medicine to its proper place among the sciences, from which the past few decades have tended to dethrone it, setting up surgery and the various specialties in its stead.

THE AUTOMOBILE NUMBER.

There is no physician who does much driving but has wished that he had a means of covering the ground more rapidly than is possible with the aid of horseflesh. This, too, not in individual cases in which time may mean a matter of life or death to the patient, but in general the time spent in the buggy or carriage is an economic waste. Few physicians can charge a fee in any way commensurate with the amount of time occupied in reaching a patient who is at all distant from the office. Rapidity of transportation, therefore, is not a matter of academic interest to the medical man but a material and practical proposition. We must look to the automobile to solve this problem and, considering the great advances that have been made in the efficiency of these machines, it seems to be meeting the requirement. Certain it is that the automobile is well past the experimental stage and is now recognized as a dependable means of locomotion. The interest taken by the readers of THE JOURNAL in a previous issue[1] largely devoted to discussing, *pro* and *con*, the automobile as a physician's conveyance makes it seem worth while to have another such number. For this to be of the greatest value the opinions of physicians who have had practical experience with automobiles is necessary. We ask those of our readers, therefore, who have had experience and are willing to give the results of such experience, to send us brief letters expressing their opinions of the automobile as a physician's vehicle. It is particularly desirable that the following points be brought out: A comparison between the one, two and four-cylinder machines as to efficiency and cost of operation; the comparative value of large and small cars; the relative usefulness of the auto on various kinds of roads—loam, clay, sand, etc., hilly and level; the methods used to prevent skidding; the advantages or disadvantages of the air-cooled over the water-cooled cars; the anti-freezing mixture used; the preference for electricity, steam or gasoline and the reasons therefor. A free discussion of the points mentioned will prove of value not only to those who already have machines but particularly to that much larger class of physicians who are seriously debating the question of substituting a motor car for the horse and buggy. Experiences, not theories, are wanted.

1. The contents are as follows: "A Remarkable and Hitherto Undescribed Muscular Lesion Occurring in Sprue," Byron Bramwell, with Pathologic Report by Robert Muir; "Anemia, with Enlargement of the Spleen, Particularly the 'Family' Form," John Cowan; "The Excretion of Leucin and Tyrosin in Two Cases of Cardiac Liver," J. Dixon Mann; "Additional Observations on Microbic Cyanosis," G. A. Gibson; "Suprarenal Sarcoma in Children with Metastases in the Skull," Robert Hutchison; "Abnormal Inception of the Cardiac Rhythm," James Mackenzie; "Hematoporphyrinuria Not Due to Sulphonal," T. K. Munro; "Multiple Hereditary Telangiectases with Recurring Hemorrhages," William Osler; "A Ready Method of Measuring the Venous Pressure Without a Manometer," George Oliver; "A Compressed-Air Hemomanometer," George Oliver; "Excretion of Creatinin and Uric Acid in Some Diseases Involving the Muscles," E. I. Spriggs; "Leukanemia: Its Relation to Leukemia and Pernicious Anemia," J. H. Drysdale; "A Clinical Sphygmomanometer Yielding Absolute Records of the Arterial Pressure," G. A. Gibson.

1. April 21, 1906.

Medical News

ALABAMA.

College Opens.—The forty-second annual session of the Medical Department of the University of Alabama, formerly known as the Alabama Medical College, Mobile, opened for its annual session, October 2.

Legislator Honored.—At a banquet given recently in Bessemer in honor of Dr. Milton C. Ragsdale, McCalla, covers were laid for 200. Dr. Joseph S. Winters presided as toastmaster and Dr. Ragsdale was presented with a gold-headed umbrella.

Personal.—Dr. James S. McLester, Birmingham, leaves for Europe, October 1, to be absent for six months.——Dr. Urban J. W. Peters, Birmingham, leaves October 1 for six months' study in this country and Europe.——Dr. and Mrs. T. O. Hearn, formerly of Albertsville, left recently for Ping-Tu, China, where they will take charge of the Oxmoor Hospital.——Drs. William Waldrop, Bessemer, and E. Burke Harden, Birmingham, left September 2 for a six months' trip to Arizona, Colorado and California.——Dr. Joseph R. Horn, Luverne, who has been ill with fever for eight weeks, has gone to Indian Springs, Ga., to recuperate.

CALIFORNIA.

To Abandon County Hospital.—The hospital and health committee of the board of supervisors agreed September 26, after a conference with representatives of the Red Cross Relief

Association, to recommend the abandonment of the San Francisco City and County Hospital. The plan is that tuberculosis patients shall be housed in a building of the almshouse tract, chronic cases to go into another building on the tract, and acute cases to be distributed in private hospitals throughout the city.

Hospital News.—The formal opening exercises of St. Caroline's Hospital, Redding, were held September 22. On the previous evening a banquet was given at which the directors of the institution, the physicians of Shasta County, and other invited guests were present. Dr. Ferdinand Stabel is president of the hospital association.——Mrs. Mary A. Lapidge has presented to the City of San Francisco a parcel of land, valued at $10,000 on Valencia street for the purpose of erecting a hospital to be known as the Victoria Memorial Hospital, which shall maintain a ward named in honor of her late husband, Captain Lapidge, and shall provide special accommodation for merchant seamen.——The Northern California Association has secured a site for the erection of a hospital in Eureka. The hospital is to be built of concrete and will contain from 60 to 75 rooms and four wards.——The Hazel Hawkins Memorial Hospital was recently deeded to the trustees, who are to hold it in trust for the people of San Benito County. The hospital is expected to be ready for dedication about November 1.——Dr. George W. McKinnon has purchased a site in Arcata and will remodel the building on the land and convert it into a modern hospital.

COLORADO.

Quiet Zone Asked.—The physicians of Denver are having prepared a "quiet zone" ordinance, which provides for a law restricting noises within a certain radius of hospitals and sanitariums.

Medical College Open.—On September 10, with impressive ceremonies, the twenty-seventh annual session of the Denver and Gross College of Medicine was inaugurated. On the same day the new dispensary at Fourteenth and Arapahoe streets was formally opened, the chief address being delivered by Governor Buchtel.

Personal.—Dr. Rudolph W. Arndt, Denver, has been appointed a member of the State Board of Medical Examiners.——Dr. Alfred Hayes, Goldfield, has been elected city physician, to fill the unexpired term of Dr. George E. Van Der Schouw, removed to Fowler.——Dr. H. Maskell Cohen, Victor, has returned after two years in Europe.——Dr. John Inglis, Pueblo, has been elected professor of physiologic psychology and physiology and hygiene in Westminster University, Denver.

Typhoid Fever.—Typhoid fever in mild form is said to be very prevalent in Canon City.——Numerous physicians throughout the state, either through neglect or malice, have failed to report cases of typhoid fever, and the Secretary of the State Board of Health has begun a vigorous campaign to secure the prompt report of cases.——Denver, La Junta, and Powers County in general are suffering most severely from the disease.

DELAWARE.

City Board of Health.—Dr. William Wertenbaker, president of the city council, and Dr. S. V. Clevenger have been appointed members of the board of health of New Castle.

Typhoid Fever.—Newark reports 50 cases of typhoid fever. The epidemic is said to be due to impure water used in washing milk cans.——Several cases of typhoid fever are reported from Stanton and other towns in the northern part of the state.——There are reported to be over 60 cases of typhoid fever at Wilmington.——There are about a dozen cases of typhoid fever in Middletown.

State Society Meeting.—The annual meeting of the Delaware State Medical Society was held at Wilmington, October 8, when the following officers were elected: President, Dr. Joseph F. Frame, Millsboro; vice-presidents, Drs. Henry J. Stubbs, Wilmington, and Presley S. Downs, Dover; secretary, Dr. George W. K. Forrest, Wilmington; treasurer, Dr. William G. Winner, Wilmington; councilor, Dr. James H. Wilson, Dover; delegate to the American Medical Association, Dr. Peter W. Tomlinson, Wilmington, and alternate, Dr. Willard Springer, Wilmington. A list of ten names was selected to be submitted to the governor from which he will select two as appointees to the State Board of Medical Examiners. It was also decided to request Dr. J. N. McCormack, Bowling Green, Ky., the national organizer, to lecture before the profession of the state.

DISTRICT OF COLUMBIA.

Election of Officers.—At the annual meeting of the Medical and Surgical Society of the District of Columbia, held October 3, Dr. Wade H. Atkinson was elected president, Dr. William C. Gwynn, vice-president, and Dr. Truman Abbe, secretary-treasurer.

Investigation of Poisons.—The George Washington University, Department of Medicine, has instituted a new course which will include laboratory investigation of poisons and powerful drugs, with especial reference to their effect on the human system, and the best means of combating overdosage or poisoning.

Health Department Expense.—During the next fiscal year Health Officer Woodward has estimated that he will require $184,580 for the expenses of the department of health. This is an increase of $79,293 over the amount appropriated last year. Dr. Woodward asks for an assistant health officer, chief medical inspector, six medical inspectors of schools, and a number of other employés.

IDAHO.

State Society Meeting.—At the fifteenth annual meeting of the Idaho State Medical Association, held in Boise, October 2, 3, and 4, the following officers were elected: President, Dr. Erwin W. Kleinmann, Hailey; vice-president, Dr. Jesse C. Woodward, Payette; and secretary-treasurer, Dr. Edward E. Maxey, Boise (re-elected). The committee composed of Drs. James H. Bean, Pocatello; George Collister and Edward E. Maxey, Boise, to whom had been referred the proposed joint meeting of the state associations of Idaho, Oregon and Washington at the Yukon Exposition, Seattle, in 1909, reported favorably and arrangements are to be made for the joint meeting. The following chairmen of committees were appointed: Arrangements, Dr. William B. Lyman, Boise; legislation, Dr. Hugh France, Wardner; public health and medical charities, Dr. James L. Stewart, Boise; nominations, Dr. Robert L. Nourse, Boise, and publication, Dr. Edward E. Maxey, Boise. The selection of a delegate to the American Medical Association was left in the hands of the secretary-treasurer. It was unanimously decided to hold the next meeting of the association in Boise.

ILLINOIS.

Must Not Distribute Medical Samples.—The Peoria Health Commissioner has requested the police to arrest any one distributing pills or other samples of medicine.

More Hospital Room Needed.—Warden Happel of Cook County Hospital, in his last report, states that the hospital population has increased 50 per cent. in the last four years, and that the number admitted during September was 30 per cent. more than was admitted in September, 1904.

Personal.—Dr. William M. Young, assistant physician at the Illinois Institution for the Feeble-Minded, Lincoln, has resigned.——Dr. George A. Sihler, Litchfield, has been appointed division surgeon for the Illinois Traction System.——Dr. Carl C. Muehlmann, Pekin, while returning from a professional call, October 3, was thrown from his buggy, breaking his left arm.

Correction Concerning Case of Rabies.—In THE JOURNAL, October 12, page 1303, under "State Aid for Victims of Rabies," there was quoted from the *Morgan Park Post* a statement concerning the death of a young man of Danville who had been bitten by a mad dog and who was said to have been sent to Chicago for treatment. Dr. Antonio Lagorio, director of the Chicago Pasteur Institute, writes that the source of this information was at fault, for the young man's parents, not believing that the dog was suffering from rabies, did not think it necessary to have the child undergo any preventive treatment, and therefore he was not sent to Chicago or anywhere else. Unfortunately, symptoms of hydrophobia developed and he died July 29. Subsequently the mother and a brother of the victim, together with six other persons, all of Danville, exposed to similar infection, came to Chicago for treatment and they are well to-day.

Chicago.

Unlicensed Practitioner Fined.—Judge Scovel of the Municipal Court, on October 8, is said to have found Gordon Francis, known as "Dr. D. Dunn," guilty of practicing medicine without a state license, and fined him $200 and costs.

Deaths of the Week.—During the week ended October 12, 498 deaths were reported, 67 fewer than for the preceding week and 30 fewer than for the corresponding week of 1906, the annual death rates per 1,000 being 12.28, 13.98, and 13.43 respectively. Chief among the death causes were acute intestinal diseases, 71; tuberculosis, 64; pneumonia, 58; heart diseases, 43; cancer, 34; nephritis and violence (including suicide), each 32; diphtheria, 11; typhoid fever, 8; scarlet fever, 4; whooping cough, 2; and influenza and measles, each 1.

Communicable Diseases.—The acting chief medical inspector reports that during the week ended October 12, 96 cases of

diphtheria, 47 cases each of scarlet fever and tuberculosis, 22 cases of typhoid fever, 16 cases of measles, 12 cases of whooping cough, 8 of chickenpox, and 1 case of smallpox were reported to the board. The chief increase was in diphtheria and typhoid fever. There was a slight decrease in the number of cases of tuberculosis and a marked decrease in the number of cases of scarlet fever as compared with the preceding week.

Hospital News.—The Henrotin Memorial Hospital will, it is announced, be opened November 1. It is a six-story building of reinforced concrete, with 60 rooms for patients, and is the result of long planning on the part of the late Dr. Fernand Henrotin, who, until his death last December, was president of the Policlinic Hospital Association. Dr. John H. Chew, president of the association, states that the prices will be similar to those of other hospitals, and that the institution will be open to patients of all reputable physicians.——Work on the University Hospital at Lincoln and Congress streets was begun October 4. The hospital will be used exclusively by teachers and students of the Department of Medicine of the University of Illinois. There will be accommodation for 80 patients, private rooms and wards. The building will be a four-story structure 134 by 150 feet, and is to cost about $120,000.

IOWA.

New Regulations.—The State Board of Health has decided to discontinue the issuance from time to time of pamphlets, and in the future to publish the entire code of the board in a single volume.

KANSAS.

Itinerant Venders Must Pay.—An opinion has been delivered by the attorney-general to the effect that itinerant venders of "patent medicines" and merchandise must pay a tax of $50 to each county of the state in which they propose to traffic their wares.

August Vital Statistics.—During August there were reported to the State Board of Health 267 cases of typhoid fever, with 38 deaths; 80 cases of tuberculosis, and 59 deaths; 60 cases of smallpox, 30 cases of diphtheria; 10 cases of measles, and 9 cases of scarlet fever, with no deaths.

KENTUCKY.

Against Tuberculosis Hospital.—A number of property owners in the vicinity of Waverly Hospital have prepared a petition remonstrating with the Kentucky Anti-Tuberculosis Association against the proposed building of a sanatorium at Waverly Hill.

Work of the Health Department.—During August the health department of Louisville made 550 visits, served 264 notices, swore out 15 warrants for people charged with violations of the health laws; abated 213 out of 285 nuisances; posted 537 placards against expectoration; issued 347 permits to milk dealers and made other inspections.

Hospital Staff.—The following attending staff for the Riverside Hospital, Paducah, has been selected by the board of trustees: Surgery, Drs. Carl M. Sears and Philip H. Stewart; medicine, Drs. Joseph B. Acree and Samuel B. Pulliam; genitourinary, Dr. Jefferson D. Robertson; obstetrics, Dr. Benjamin B. Griffith, and eye, ear, nose and throat, Dr. Charles E. Purcell.

Advocates Vaccination of Newborn.—Dr. J. I. Whittenberg, superintendent of the Louisville Eruptive Hospital, in his annual report, recommends a system of compulsory vaccination for the newborn, on the ground that there would be practically no pain attached to the vaccination and the infants would be rendered permanently immune from smallpox. He reports that of the 114 patients admitted to the hospital during the fiscal year ended August 31, there was not a single fatality.

Personal.—Drs. L. S. McMurtry, Joseph M. Mathews, J. Garland Sherrill, William Cheatham and Joseph W. Irwin, all of Louisville, have returned from Europe.——Dr. Simrall Anderson, Louisville, was thrown into the Ohio River while speeding near West Point in his automobile, but was not seriously injured.——Dr. Benjamin McClaskey, Wakefield, was recently operated on for appendicitis at the Norton Infirmary, Louisville.——Dr. F. M. Cannon, Oxford, recently suffered an attack of cerebral hemorrhage.——Dr. Theodore D. Finck, Louisville, who has been critically ill, is recovering.

MARYLAND.

Medical College Opens.—The annual session of the University of Maryland School of Medicine was inaugurated October 12, with an address by Dr. John Hemmeter.

Society Meeting.—At a meeting of the Allegany County Medical Society, held in Cumberland, October 5, the following officers were elected: President, Dr. George L. Broadrup, Cumberland; vice-president, Dr. A. R. Walker, Frostburg; secretary-treasurer, Dr. William R. Foard, Cumberland; censor, Dr. Timothy Griffith, Frostburg; delegate to the state society, Dr. Edwin B. Claybrook, Cumberland; and alternate, Dr. A. Leo Franklin, Cumberland.

Personal.—Dr. Homer E. Tabler has been appointed health officer of Hancock.——Dr. William S. Welch, Annapolis, has been appointed foreman of the grand jury of Anne Arundel County.——Dr Marshall L. Price has been appointed secretary of the State Board of Health, vice Dr. John S. Fulton, both of Baltimore.——Dr. Gordon T. Atkinson, Crisfield, state comptroller, has been appointed an honorary member of the Maryland commission to the Jamestown Exposition.

Efforts for New Building.—A strenuous effort is being made by the Medical and Chirurgical Faculty to raise the balance of the $50,000 required to make up the $100,000 needed for the new building. The committeemen for the medical colleges are: Johns Hopkins, Dr. William A. Fisher, Jr.; University of Maryland, Dr. Lewis M. Allen; College of Physicians and Surgeons, Dr. Harvey G. Beck; Baltimore Medical College, Dr. Emil Novak, and Maryland Medical College, Dr. Maurice Lazenby.

MASSACHUSETTS.

Illegal Practitioner Fined.—L. H. Laxton, a "botanic healer" of Lynn is said to have been fined $500 recently by Police Judge Lummis for practicing medicine without a license.

Physician Acquitted.—Dr. Nathaniel Wallis, Fitchburg, who was indicted in August on the charge of performing an illegal operation on Ethel A. Ricker, has been found not guilty and discharged.

Communicable Diseases.—The public school at East Renfrew has been closed on account of diphtheria.——From West Somerville twenty-six cases of typhoid fever are reported. The disease is said to be due to infected milk.

The Campaign Against Tuberculosis.—A league to combat the spread of tuberculosis was recently formed by the physicians of South Boston. The following officers were elected: President, Dr. Edward A. Tracy; vice-presidents, Drs. Herbert J. Keenan and John G. Lane; secretary, Dr. William J. Feehan; treasurer, Dr. Addie J. Dalrymple; advisory board, Drs. Herbert J. Keenan, James McDonals, Edward A. Tracy and William J. Sheehan.

Society Meetings.—At the quarterly meeting of the Essex North District Medical Society, held in Newburyport, October 9, the secretary announced that the resolutions advocating a $5 minimum fee for ordinary life insurance examinations had been referred to each physician in the district and resulted in the adoption of the resolutions. A general committee was appointed to investigate all forms of contract practice in the district and to report to the society at its next meeting with recommendations for correction of existing abuses.——At the annual meeting of the North Berkshire Medical Society, held in North Adams, the following officers were elected: President, Dr. George F. Simpson; vice-president, Dr. Homer Bushnell; secretary-treasurer, Dr. Lyman A. Jones; and censors, Drs. Orland J. Brown, Homer Bushnell, Martin M. Brown, and George L. Rice, Adams, and Dr. Holmes, Adams.

Personal.—Dr. Alvin D. Holmes has been appointed medical inspector of public schools for Hyde Park.——Dr. Edward S. Manix, Lynn, saved his life recently by leaping clear of the forward part of his automobile and the railroad tracks a few seconds before his machine was smashed by a train.——Drs. Albert W. Hancock and J. Forrest Burnham have been appointed members of the visiting staff of the Lawrence General Hospital.——Dr. John J. Sullivan, Lawrence, has been elected physician of the second ward, vice Dr. Joseph F. Howard, resigned.——Dr. Henry B. Dunham, assistant superintendent of the Massachusetts Tuberculosis Sanatorium, Rutland, has been elected to a similar position in the New Jersey State Sanatorium for Tuberculosis, Glen Gardner.——Dr. Edwin P. Stickney, Arlington, fractured both arms while cranking the engine of his automobile recently.——Dr. Joseph E. Lamoureux, Lowell, has been appointed U. S. pension examiner for the district, vice Dr. Thomas F. Harrington, removed to Boston.

Meeting of the Councilors of the State Medical Society.—The regular fall meeting of the Councilors of the Massachusetts Medical Society was held in Boston, Oct. 2, 1907, with the president, Dr. George W. Gay, Newton, in the chair. Drs. Charles K. Cutter, Somerville, and Halbert G. Stetson, Greenfield, were elected delegates to the annual meeting of the Vermont State Society. Drs. Herman F. Vickery, Boston, and

Henry Colt, Pittsfield, were delegated to attend the annual meeting of the Medical Society of the State of New York. The standing committee on medical diplomas, to which was referred the matter of a revision of the list of medical colleges whose graduates are eligible to membership in the state society, asked an extension of time, which was granted. This contemplated action was found necessary and wise because of the low standard of attainments held by graduates of certain schools applying for admission to the state society. It was voted that the society investigate, for the purpose of adoption, means looking to the defense of its members in cases of suits for malpractice. In relation to communications from the Secretary of the American Medical Association and Dr. J. N. McCormack, chairman of the committee on organization of the A. M. A., in respect to the subject of formation of seven branch associations of the A. M. A., it was voted to refer the matter to the committee on state and national legislation, the same to report at the February meeting of councilors. The committee consists of Drs. George W. Gay, Newton, president of the state association; Henry P. Bowditch, Boston; Silas D. Presbrey, Taunton; George G. Sears, Boston; and Daniel D. Gilbert, Boston. A memorial to Dr. Charles H. Folsom was presented. The meeting adjourned until February, 1908.

NEBRASKA.

Smallpox.—Five cases of smallpox of mild type, are reported from Bennington.

Beri-Beri.—The State Board of Health has been notified of the existence of 20 cases of beri-beri among the Japanese laborers in camp at Alvo.

Do Not Want Names Mentioned.—The Dixon-Dakota Counties Medical Society at a recent meeting adopted a resolution requesting the lay newspapers to refrain from mentioning the names of its members in connection with their cases.

Secretaries of Health Boards Meet.—At the meeting of the secretaries of boards of health of the state, held in Beatrice, September 26 and 27, the following officers were elected: President, Dr. William T. Johnson, Pawnee City; vice-president, Dr. George H. Brash, Beatrice; secretary, Dr. Ernest J. C. Sward, Oakland, and treasurer, Dr. Samuel F. Ashby, Fairmont.

Personal.—Dr. Theodore P. Livingston, Plattsmouth, medical director of the Burlington system west of the Missouri, has retired to become consulting surgeon. In appreciation of their affection, the surgeons of the Burlington lines tendered Dr. Livingston a testimonal banquet recently, at which a handsome chest of silver was presented him.——Dr. D. J. Reed, assistant surgeon of the Swedish Hospital, Omaha, was run over by a train October 3, necessitating the amputation of his left foot.

NEW YORK.

Personal.—Drs. James W. Putnam, Buffalo; Jessie L. Herrick, Elmira; William C. Krauss, Buffalo; and Matthew D. Mann, Buffalo, have returned from Europe.——Dr. Max C. Breuer, Buffalo, is taking a western trip.

Medical Inspectors Named.—The Board of Education of Albany has appointed a board of physicians to visit and inspect the public schools. The following comprise the board: Drs. J. Howard Branan, John B. Congdon, Frederick C. Conway, Joseph A. Cox, Bransen K. DeVoe, Malcolm Douglas, Percival W. Harrig, Arthur F. Holding, William G. Keens, Joseph A. Lanahan, Howard E. Lomax, Joseph P. O'Brien, Daniel V. O'Leary, Jr., James F. Rooney, Henry L. K. Shaw, and James N. Vander Veer.

Communicable Diseases.—An epidemic of rash, called by some "Italian itch," but which is undoubtedly smallpox, is said to be prevalent in McGraw.——The health officer of Clayton has ordered District School No. 7 closed on account of the presence of five cases of smallpox in that locality.——Smallpox is reported from Kingston in a house where twenty-one colored individuals are living, and in which three cases are reported.——It is reported that at least fifty cases of typhoid fever have occurred among residents of New York City sojourning for the summer near Bloomingburgh, Sullivan County.

Society Meetings.—At the first annual meeting of the Fifth District Branch of the Medical Society of the State of New York, held in Syracuse, October 3, the following officers were elected: President, Dr. Wiliam M. Gibson, Utica; vice-president, Dr. Gilbert D. Gregor, Watertown; secretary, Dr. Frank E. Fox, Fulton, and treasurer, Dr. William D. Garlock, Little Falls.——At the second annual meeting of the Eighth District Branch of the Medical Society of the State of New York, held in Buffalo, October 26 and 27, the following officers were elected: President, Dr. Albert D. Lake, Gowanda; vice-presidents, Drs. Emerson E. Snow, Batavia, and Joseph W. Grosvenor, Buffalo; secretary, Dr. Lee M. Francis, Buffalo; and treasurer, Dr. Charles A. Wall, Buffalo.——At the annual meeting of the Fourth District Branch of the Medical Society of the State of New York, held in Saranac Lake, September 19 and 20, Dr. Charles Stover, Amsterdam, was elected president, and Amsterdam was selected as the place of meeting for next year.——At the annual meeting of the Utica Medical Library Association, held in Utica, October 7, the following officers were elected: President, Dr. Fred W. Smith; vice-president, Dr. Raymond L. Baker; secretary, Dr. William H. Beattie; treasurer, Dr. J. Hume Baldwin, and librarian, Dr. Smith Baker.

New York City.

Tuberculous Cows Killed.—The entire herd of cows, numbering 32, kept on Randall's Island, were found to be infected with tuberculosis and will be destroyed.

Personal.—Dr. John Vander Poel has returned from Europe.——Dr. Samuel M. Brickner will spend the winter at Saranac Lake for his health.——Dr. A. Goldberg, ambulance surgeon of the Lebanon Hospital, was severely injured when the ambulance collided with a trolley car.

Hospital Notes.—A small fire in one of the rooms of the Post-Graduate Hospital created quite a scare among the patients recently, but did little damage and no one was injured.——Plans have been filed for the enlargement of St. Luke's Hospital by an addition to the Muhlenberg Pavilion, which will be fitted with a roof garden at a cost of $20,000.——By the will of the late James D. Willis, $100,000 is bequeathed to the Presbyterian Hospital.

Treatment of Inebriates.—The New York School of Philanthropy of the Charity Organization Society will examine into the present facilities for the treatment of inebriates in New York. There are no free institutions for the care of habitual drunkards in the city. Dr. S. T. Armstrong, general medical superintendent of Bellevue Hospital, reported that 6,453, or 25 per cent. of the total number of patients admitted to Bellevue in 1906, were treated for various forms of alcoholism.

NORTH CAROLINA.

Physician Acquitted.—In the case of Dr. and Mrs. David S. Rowland, Raleigh, charged with the murder of the first husband of Mrs. Rowland, the jury returned a verdict of "not guilty." October 6.

Medical College Opens.—The fifteenth annual session of the North Carolina Medical College, Charlotte, was opened October 1 for the first time in the new college building. Dr. Walter O. Nesbit, dean of the faculty, presided.

Laboratory Opened.—With the approval of the executive committee of the board of trustees, Drs. Watson S. Rankin and Lewis M. Gaines, of the Wake Forest School of Medicine, have established a laboratory to be known as the Southern Clinical Laboratory, for the examination of blood, urine, pathologic specimens, etc.

Personal.—Dr. Richard Dillard, Edenton, has been awarded the cup presented annually by Mrs. Lindsay Patterson, Winston, through the State Historical Association, to the writer contributing matter of most value to the students of state history.——Dr. James W. Young, Spencer, was operated on for appendicitis, September 28, and is reported to be convalescent.——Dr. John McCampbell, for several years first assistant physician at the State Hospital for the Insane, Morganton, has been elected superintendent. The second and third assistant physicians, Drs. James K. Hall and Paul V. Anderson, have been promoted to the first and second assistantships respectively.

OHIO.

Communicable Diseases.—The schools at Adams, Mills and Dresden, Muskingum County, have been closed on account of diphtheria.——An epidemic of diphtheria is feared in the vicinity of Pond's Run where three cases have already appeared.——Lima is reported to have an epidemic of typhoid fever. It is said that a number of deaths have occurred.

Society Meeting.—The fourth annual meeting of the Tenth District Medical Society, was held at Chillicothe, October 3, when the following officers were elected: President, Dr. Gilbert E. Robbins, Chillicothe, Ross County; vice-presidents, Drs. Arleigh, Delaplane, South Solon, for Madison County, Dudley V. Courtright, Circleville, for Pickaway County; and William C. Gates, Bucyrus, for Crawford County; and secretary-treasurer, Dr. George O. Beery, Lancaster, Fairfield County.

Personal.—Dr. Charles A. L. Reed, Cincinnati, was painfully bruised by the overturning of his automobile, October 7, but is now reported to be doing well.——Drs. Harry S. Davidson,

Barberton, and M. L. Hunt and Mark D. Stevenson, Akron, who were severely injured in an automobile accident, September 16, are making a good recovery.——James A. Salisbury, Dayton, who was thrown from his carriage while being removed to the Miami Valley Hospital, is reported to be doing fairly well.——Dr. Joseph W. Darrah, Martin's Ferry, is reported to be ill and confined to his house.——Dr. John B. Alcorn, Gallipolis, sailed from New York, October 1, for Vienna.——Dr. Milo Wilson, formerly superintendent of the Athens State Hospital, has entered on his new duties at the Ohio Hospital for Epileptics, Gallipolis.——Dr. Thomas G. Youmans, Columbus, has resigned as fire and police surgeon of the city.

PENNSYLVANIA.

Doctors Bar Patent Medicines.—At a meeting of the Schuylkill County Medical Society, October 1, a crusade was started against the various drug evils. The society resolved to institute every effort to overcome the use of "patent medicines," of strong alcoholic preparations, and also interdict the sale of opiates and narcotics.

Rejuvenate Health Boards.—It is stated that Dr. Dixon, State Commissioner of Health, is infusing new life into old locals boards of health and getting new boards organized in boroughs throughout the state that never had health organizations. Dr. John A. Boush, of Chambersburg, a member of Dr. Dixon's staff, has been placed in charge of the work of organization and is now visiting the boroughs throughout the state for this purpose. There are several hundred boroughs in Pennsylvania in which the councils have failed to comply with the act of May 11, 1893, by appointing a body of their citizens to look after the local health conditions, and in many other towns, although there have been health organizations, the work has been neglected and very little done.

Tuberculosis Exhibit.—The Pittsburg Sanatorium, an institution for the prevention of tuberculosis, established through the generosity of Mr. William McConway, who gave his residence and four acres of land as a site, and the energy of Mr. Otis H. Childs, who had previously done work in this line in Saranac Lake, N. Y., has been conducting a tuberculosis exhibit at the Industrial Exhibition in Pittsburg. The exhibit consists of defective tenements, of different varieties of tuberculosis of human beings and cattle, and the means and methods of protection against and prevention of tuberculosis. In connection with the exhibit it has been distributing a large amount of literature on the causation and prevention of tuberculosis. Dr. William C. White is the medical director of the institution.

Philadelphia.

Personal.—Dr. S. Weir Mitchell has returned to Philadelphia and has, as usual, resumed active practice after a summer spent in relaxation and recreation at Bar Harbor, Maine.——Dr. Lawrence F. Flick, director of the Henry Phipps Institute, has returned from Europe.——Drs. M. P. Ravenel, Mary M. Wolf and Hallie L. Ewing sailed for Europe October 14.——Dr. John Egan, police surgeon, is ill in the Medico-Chirurgical Hospital.——Dr. William P. Roberts has returned from Europe.——Dr. Norris Wistar Vaux sailed for Europe October 10.

Quarantine Lifted.—The quarantine placed on the University Hospital during the past week on account of the development of smallpox in that institution was lifted October 14. All the inmates have been kept housed in the institution since the development of the malady. The disease was transported to the hospital by a sailor from the British steamship *Vienna*. The occurrence of the disease in this vessel was reported in THE JOURNAL of October 5. More than 400 persons have been housed in the institution since the establishment of quarantine.

Health Report.—The total number of deaths reported to the Bureau of Health for the week ended October 12, was 415. This is an increase of 9 over the number reported last week, and a decrease of 78 from the number reported in the corresponding week of 1906. Of the number, 227 were males, 188 females, including 73 girls; 77 were boys. The principal causes of death were typhoid fever, 9; scarlet fever, 2; diphtheria, 7; consumption, 52; cancer, 21; apoplexy, 20; heart disease, 38; acute respiratory diseases, 30; enteritis, 32; hepatic cirrhosis, 7; appendicitis, 3; Bright's disease, 33; congenital debility, 13; suicide, 3; accidents, 13; and marasmus, 13. There were 173 cases of contagious disease reported with 18 deaths as compared with 146 cases and 12 deaths reported in the preceding week.

Physicians Are Druggists' Guests.—The Kensington Branch of the Philadelphia County Medical Society was tendered a banquet by the pharmacists of the Eleventh District of the Philadelphia Association of Retail Druggists, October 10. More than 200 persons were present, and during the evening measures were strongly urged for the conformation of prescriptions to the International Pharmacopeia instead of the use of patent formulas. All the speakers endorsed the campaign which has for its object the popularizing of medical standards as contained in the United States Pharmacopeia and the National Formulary. Addresses were delivered by Dr. S. Solis-Cohen, Charles H. LaWall, A. M. Eaton, John V. Shoemaker, Horatio C. Wood, Jr., Henry Fisher, T. C. Fulton, A. B. Hirsh and others. The occasion was a most happy one in the promotion of the fraternal feeling between the two professions.

Charitable Bequests.—By the will of the late Charles Hewett of Cheltenham, the Episcopal Hospital of this city will receive $5,000 as a memorial of his two deceased sons.——The will of the late Anna T. Jeanes bequeathes the interest and dividends of 148 shares of the Pennsylvania Company for Insurance on Lives and Granting Annuity Stock. The will directs that this money is to go to the Woman's Medical College Hospital so long as the hospital is utilized for women and children only and without wards for men. If the exclusive character of the hospital is abandoned the money is to be withdrawn and given to another institution. The value of the 148 shares of stock is $64,000. The same will bequeaths $10,000 to each of the following institutions: West Philadelphia Hospital for Women, Hahnemann Hospital, cancer ward of the Philadelphia Home for Incurables, the Woman's Homeopathic Hospital, and the Pennsylvania Hospital; $5,000 is also willed to each of the following institutions: Pennsylvania Home for Blind Women; Pennsylvania Home for Blind Men, and the Red Bank Sanitarium Association of Philadelphia.——By the will of the late Morris Einstein a provisional bequest of $5,000 is made to the Jewish Hospital Association of this city.

TENNESSEE.

Colleges Open.—The Medical Department of the University of Tennessee, Nashville, began its annual session September 16. Dr. William E. McCampbell presided at the opening exercises.——The College of Physicians and Surgeons, Memphis, opened for its annual session, October 1.

Personal.—Dr. Frank D. Smythe, Memphis, was thrown from his buggy in a collision with a street car September 27, fracturing three ribs and sustaining severe injuries about the head.——Dr. H. T. Alexander has been elected chief surgeon at the National Soldiers' Home, Johnson City, vice Dr. Talmadge West.——Dr. William G. Bogart has been elected chief of staff of the Erlanger Hospital, Chattanooga.

Law Violators.—Dr. John T. Shepherd, Chattanooga, physician of Hamilton County, has reported the existence of diphtheria and scarlet fever in almost all the suburbs of the city. He says that the diseases are most prevalent in Rossville, and that the tendency of parents has been to return their children to school much too soon after their recovery. He also complains that the people are tearing down the contagious disease placards without authority and before the danger is past, and gives warning that the full penalty of the law will be exacted if this offense is repeated.

WASHINGTON.

Aliens May Practice.—According to an opinion given by Assistant Attorney-General A. J. Falknor to Caspar W. Sharples, Seattle, secretary of the State Board of Medical Examiners, aliens, as well as citizens of the United States, have the right to practice medicine on presentation of the proper credentials.

War on Rats.—Dr. Grant Calhoun, health officer of Seattle, began on September 19, the preparation of an ordinance to exterminate rats. In view of the recent outbreak of plague at San Francisco, it is believed that Puget Sound seaports have been exposed to danger, and an ordinance is being prepared which will apply to the entire city so that in case of an outbreak in Seattle the health board will not be hampered by lack of authority.

Personal.—Dr. William R. M. Kellogg, Seattle, was appointed city bacteriologist September 17 and has appointed the following physicians as inspectors of public schools: Drs. W. L. Ludlow, Maud Parker, H. Eugene Allen, John Hunt, A. H. McLeish, John R. Booth, F. A. Booth, R. Maud Purman, Philip R. Waughop, C. E. Bartlett, Marietta Marsh, H. J. Davidson, S. D. Barnes, Charles E. Guthrie, L. O. Fisit, Walter A. Hibbs, Benhoff and William R. Tymms.——Dr. H. J. Whitney, Davenport, sustained severe injuries recently by a fall through the glass door of his bookcase while suffering from an attack of vertigo.

GENERAL.

Railway Surgeons Organize.—At a meeting held in Plattsmouth, Neb., recently, the surgeons of the Burlington lines west of the Missouri River organized a society to be known as the Association of Railway Surgeons of the Chicago, Burlington and Quincy. The following officers were elected: President, Dr. Theodore P. Livingston, Plattsmouth; vice-president, Dr. Byron B. Davis, Omaha; secretary, Dr. George F. Roehrig, Denver, and treasurer, Dr. John P. Savage, Sioux City, Iowa.

Society Election.—The thirty-third annual meeting of the Mississippi Valley Medical Association was held in Columbus, Ohio, October 8-10, under the presidency of Dr. Horace H. Grant, Louisville. The following officers were elected: President, Dr. Arthur R. Elliott, Chicago; vice-presidents, Dr. Florus F. Lawrence, Columbus, Ohio, and Robert C. McChord, Lebanon, Ky.; secretary, Dr. Henry Enos Tuley, Louisville (re-elected); treasurer, Dr. Samuel C. Stanton, Chicago (re-elected). The 1908 session will be held in Louisville. A complete report of the meeting will begin in the next issue of THE JOURNAL.

Eye, Ear and Throat Specialists Meet.—The twelfth annual meeting of the American Academy of Ophthalmology and Otolaryngology was held in Louisville, September 26 to 28, under the presidency of Dr. Joseph A. Stucky, Lexington. The president discussed in his address "Intracranial Complications of Otitic Origin." The committee appointed to cooperate with a like committee from the American Medical Association on legislative measures to prevent ophthalmia neonatorum, presented a report recommending the use of the following form of law as a basis for legislative action, modified to suit the needs and legal situations in the different states:

Section 1.—The department of health of this state is hereby vested with power and authority to publish and distribute such information, and to make such rules, regulations and ordinances as it may deem expedient to prevent the development of inflammation of the eyes of the new-born babe, or so-called ophthalmia neonatorum, in public hospitals or institutions in which midwifery is practiced, either wholly or in part, and in connection with the practice of legally licensed midwives.

Section 2.—Said department of health is authorized to enforce its rules, regulations and ordinances at the expense of the state.

Section 3.—Any person violating any rule, regulation or ordinance of said department of health regarding the prevention of ophthalmia neonatorum shall be guilty of a misdemeanor.

The following officers were elected: President, Dr. Derrick T. Vail, Cincinnati; vice-presidents, Drs. Joseph C. Beck, Chicago; Theodore B. Schneideman, Philadelphia; Frank S. Owen, Omaha; secretary, Dr. George F. Suker, Chicago; treasurer, Dr. Otto J. Stein, Chicago; members of the council, Drs. William L. Dayton, Lincoln, Neb., and Albert R. Baker, Cleveland. Cleveland was selected as the place for the next meeting.

The Plague in California.—On October 5 the plague situation was as follows: Fifty-seven cases have occurred, with 32 deaths, and over 30 cases are under observation in the suspect division. Of this latter number about 20 cases were in all probability plague, as the the clinical picture was complete. Energetic work in San Francisco is being continued and the Board of Health and Marine-Hospital officers are taking up with the supervisors the imperative necessity of condemning a number of livery stables and enforcing sanitary measures for the control of stables. The treasurer of the postoffice and a mail carrier are ill with the disease, which has been traced in both cases definitely to a livery stable. The situation is reported to be fairly good in San Francisco, although cases are likely to occur there from time to time for a good many months. In all probability for several years, at least five, the infection has been spreading slowly through various parts of the state surrounding San Francisco Bay. The parallel between conditions there and the history of Manchuria is not reassuring. Histories of clinical cases, which were undoubtedly plague, have been found as far south as Livermore, below San José; in the San Joaquin Valley between Stockton, and in the Sacramento Valley beyond Stockton. The counties are taking various steps now, which should have been taken several years ago, to find out definitely the present status of affairs. Dr. Long of the U. S. P. H. and M.-H. S. has been placed in charge of Oakland, Alameda and Berkeley. In the latter city one or two cases of plague have occurred and more than a year ago a definite case was located in Alameda. Alameda County is taking active steps to exterminate the rats and to clean up. The Medical Society of San Joaquin County has taken up the matter in that district and has appointed a committee to make thorough investigation.

CANADA.

College Election.—The College of Physicians and Surgeons of Quebec met in Quebec September 26 and elected Dr. Louis P. Normand, Three Rivers, president; Drs. Henri A. Lafleur, Montreal, and Alfred Simard, Quebec, vice-presidents; Drs. Rosaire Paquin, Quebec, and Macdonald, Montreal, secretaries; Dr. Bonnier, Montreal, registrar.

McGill's Attendance Not Up to the Mark.—While the medical department of Toronto University is flourishing splendidly, McGill has fallen away off. In first-year medicine the class numbers 56, as compared with 106 last year. Of course the recent fires in McGill have a great deal to do with this small attendance, though the beginning of the fifth-year course may also be a contributing factor. Most likely McGill will have recovered from her recent disasters by another year.

Department of Public Health.—The *Victoria Colonist* thus endorses the resolution passed at the recent meeting of the Canadian Medical Association respecting a separate department of public health in the Canadian government: "The Canadian Medical Association has passed a resolution urging on the Dominion Government the necessity of creating a Department of Public Health. With the tremendous number of immigrants pouring into the country one would imagine that the duty of the government in this connection would be an obvious and pressing one."

Hospital News.—By the prompt action of the nurses of the Amasa Wood Hospital, St. Thomas, Ont., who formed a fire brigade, that institution was saved from destruction early in the morning of September 25.——There were 62 cases of typhoid fever in the Winnipeg General Hospital during September, 32 of which were admitted later than September 1.——Winnipeg is considering a new isolation hospital to take the place of the isolation wards in the General Hospital, now in vogue. The site will be completely removed from the General Hospital, but the nursing will be supplied by the General Hospital.

Personal.—Dr. Ridley McKinzey, Montreal, has gone to Europe.——At the convocation at Toronto University the honorary degree of doctor of laws was conferred on Henry Easson Young, B.A., M.D., minister of education for British Columbia.——Dr. James C. Fysche, superintendent of the Alexandra Contagious Diseases Hospital, Montreal, has accepted the position of assistant director of the Department of Hygiene in the Kingdom of Siam.——Sir Lauder Brunton, who has been touring Canada with his son, was taken ill in Montreal and was unable to sail for home September 20.——Dr. Alexander M. Campbell has resigned as superintendent of the Winnipeg General Hospital.

Toronto University.—On October 1, the session of 1907-8 was opened in the Medical Faculty of Toronto University by a special address delivered by the new professor of anatomy, J. Playfair McMurrich, B.A., Ph.D. The first year class in medicine numbers 216, and is the largest in the history of the institution. A feature of the evening's program was a short address delivered by a former professor of anatomy, Dr. J. H. Richardson, Toronto, who recalled that he was a teacher of anatomy in old King's College, Toronto, sixty years ago, when the entire medical college was a building forty feet square containing two rooms. His first class comprised 14 students, but in three years the number had grown to 60. This year the total registration in medicine will reach 700. Next year the five-year course will begin.

FOREIGN.

Plague in China.—It is reported that plague is prevalent at Kaiping, a walled city twenty-five miles from Newchwang. There have been thirty deaths.

Honor for Turkish Physician.—The Sultan has conferred the gold and silver medals of Imtiaz on Dr. Zambaco Pasha, who has distinguished himself by his investigations and works on leprosy.

Robert Koch's Sleeping Sickness Mission Completed.—Koch now regards his scientific study of sleeping sickness in Africa as completed, and will soon start for home. He is expected in Berlin by November 1.

Physician Fined for Selling Liquor to Patients Without a License.—A physician of St. Andreasburg, Germany, gave the inmates of his sanatorium and their guests wine, beer and mineral waters, which they paid for. Complaint was made and he was fined for selling liquor without a license.

Salaries of Medical School Inspectors in Germany.—The medical school inspectors of Schoneberg have protested that their salary of $250 is too small for their duties. The local authorities have decided to reduce the duties demanded of the inspectors, saying that the present salary will then be ample in proportion.

German Prize for Marseilles Pharmacist.—The German Apothecaries Union (*Apothekerverein*) founded in 1893 an endow-

ment for a gold medal to be awarded every five years. The "Fluckinger medal," as it is called, was awarded recently to Prof. E. Heckel, director of the Colonial Institute at Marseilles, for his achievements in pharmacology, especially in the line of plants in the colonies.

Prevention of Cholera in Turkey.—The authorities in Constantinople are taking energetic measures to prevent the epidemic of cholera, which is still raging in Russia, from invad the Ottoman territory. The Constantinople correspondent of the *Lancet* states that a strict quarantine is enforced on steamers and sail boats coming from the Black Sea, while ships from Odessa are subject to three days quarantine.

The Cholera Epidemic in China.—Dr. Cummings, of the Public Health and Marine-Hospital Service, reports that cholera is now attacking Europeans and Americans in Shanghai. Two officials of the American consulate have been attacked. Dr. Cummings states that he can recall no epidemic in which so many vessels and places have been so quickly infected by one place as during the present outbreak in Shanghai.

International Institute for the Study of Causes of Mental and Nervous Affections.—Dr. Frank of Zurich announced at the International Congress of Psychiatry and Neurology, held recently at Amsterdam, that arrangements had been consummated for an international institute with the above aims. The King of Italy has offered the use of a villa near Lugano, but later the institute will be transferred to Zurich in Switzerland.

Sanatoria for the Incurable Tuberculous.—The Darmstadt sickness insurance companies made inquiries among their beneficiaries who are in the incurable stage of tuberculosis as to whether or not they would be willing to go to a sanatorium, and found a ready response. Arrangements have therefore been made to devote a certain part of two existing sanatoria to the care of the incurable tuberculous. This completes the system of the sanatoria in Germany and is hailed as a great advance.

Concessions for Scientific Research in Germany.—The German Association of Physicians and Naturalists recently held its seventy-ninth annual session at Dresden—the "Naturforscher Congress," as it is generally called. The attendance reached 2,000, and it was announced that the amount in the treasury was about $50,000. The income from the Frenkle endowment, $750, was divided equally between Garré and Krehl to enable the former to continue his research on the transplantation of organs, and the latter his research on the radiation of heat in man.

German Campaign Against Venereal Diseases.—According to a recent decree of the authorities of Berlin and Charlottenburg, Germany, lectures on hygiene, including sexual hygiene, are to be given regularly in the high schools (gymnasia). The German high schools include part of the college course. The Prussian cabinet has also ordered that instruction in regard to the perils of venereal diseases be imparted to students in the higher institutions of learning. In Darmstadt, the teachers have been ordered to inform the parents of the lectures and to invite them to attend.

The Vicissitudes of Professor Vulpius.—It is not many years since Vulpius of Heidelberg was compelled to pay heavy damages in a case brought against him by a former patient claiming injury received while in his clinic. Recently he was awarded an important prize for his professional achievements, and now again he is being sued for damages. The court has ratified the claim and condemned him to pay $1,250 because he performed the operation in question on a minor without the consent of the parents. The claim for further damages was disallowed as no permanent harm had resulted from the operation.

The Delay in the Osiris Bequest to the Pasteur Institute.—Daniel Osiris was a Hebrew financier at Paris who always lived very frugally. A few years ago he gave $20,000 as a prize for scientific research. The prize was awarded to E. Roux of the Pasteur Institute, who devoted the entire sum to his expensive research on syphilis in monkeys. When Osiris died last year his millions were bequeathed to the Pasteur Institute, but the director announces that there must be a delay of several years before the institute comes into possession of the property. No definite plans as to the research to be taken up can be formulated as yet.

Congress for Experimental Psychology.—A congress with this title is to be held at Frankfurt, April 22-25, 1908. The president of the local committee is Prof. K. Marbe, Jordanstr. 17, Frankfurt, a. M. Addresses are already announced by E. Claparède on "Methods of Research in Experimental Psychology;" by L. Edinger on "Relations Between Comparative Anatomy of the Nervous System and Psychology," and "Means and Tasks of Comparative Psychology;" by K. Bühler on "Speech from the Standpoint of Normal Psychology;" by A. Pick on "Speech from the Standpoint of Pathology," and by Wirth and Specht on "The Pathologic Behavior of the Attention." The membership fee is $2.50.

Successful Work of the German Physicians' Protective League.—The annual report of the secretary of the Leipsiger Verband fills a 50 page pamphlet and shows great progress. As the readers of THE JOURNAL are aware, this association was founded in Germany a few years ago to present an organized front against the encroachments of the sickness insurance corporations. Its success was phenomenal, and the present comparatively satisfactory condition of contract practice in Germany is the result of its efforts. The secretary states that there are now 20,135 members, each paying $5 a year, but that this number by no means represents the entire profession in Germany. It was found that physicians withheld from joining until they found they were in difficulties, when they would hastily join and cry for help. To correct this abuse, a new regulation has been adopted to the effect that aid will not be given henceforth except to members of the organization, and that an applicant for membership requiring aid will not be admitted to membership unless he pays a sum equivalent to the back dues for several years. The insurance companies have acquired a wholesome respect for their medical officers since they have learned that they are backed up by the organized profession. The companies now make concessions rather than precipitate a conflict. Since the founding of the association, 464 conflicts between the insurance companies and their medical officers have been settled in favor of the latter, and in only 16 cases was the outcome even temporarily in favor of the companies. It is recognized, however, that the companies have yielded only to superior strength, and that if anything should reduce the power opposed to them, they would soon regain all they have lost. For this and other reasons the association is striving to accumulate an emergency fund, and it has already received many donations. Physicians who have benefited by the society's aid frequently present to this fund a certain proportion of the surplus income they are receiving. An employment bureau has been organized in connection with its other work, and 3,374 positions have been obtained through it, including 781 medical practices. About 700 physicians apply annually for positions, and the number of medical students is on the increase (6,080 in 1905-6, and 7,219 in 1906-7), so that the overcrowding of the profession evidently still continues.

International Congress of Hygiene and Demography.—The Fourteenth International Congress of Hygiene and Demography was held at Berlin, Sept. 23-29, 1907. Over 4,000 members were enrolled. Fortunately for the members who could not speak German, the members of the reception committee who could speak English wore yellow ribbons and those who spoke French, blue; some wore both. The address of welcome was delivered by the president, Prince Heinrich zu Schönaich-Carolath. The Minister of State, Dr. Holle, then gave a short address, after which the president made an address, in which he pointed out that the object of the congress is to serve all people by reducing the amount of sickness. The Romans, he said, recognized the importance of hygiene, though since the fall of the Roman empire they have been enveloped in comparative darkness. He directed attention to the hospitals and sanitaria found in all civilized countries and alluded to the international treaties in regard to the precautions against epidemics. He also gave details of the immense sums spent in Germany under the compulsory insurance laws against sickness, accident and old age. The Exhibition of Hygiene was opened by the Crown Prince, immediately after the principal speeches by the delegates of the various nations represented. The exhibition was held in some of the lobbies, passages and committee rooms of the Reichstag. Among the exhibits were various systems of cremation, statistics and diagrams showing the comparative relationship of one disease to another, or of death, sex, age, occupation, etc. Diagrams and pictures showed the working of the law for compulsory insurance against accidents and disease. There were wax models of skin diseases and a magnificent array of bacteriologic exhibits. In one room were models of sanitaria, illustrating the war against tuberculosis, and in another various systems of sewage disposal were shown. The Imperial Institute for Infectious Diseases in Berlin had an extensive and well-arranged exhibit of series of specimens, photographs, diagrams and apparatus, including sets of portable apparatus for the establishment of temporary laboratories, for the campaign against typhoid, cholera and plague. There were no large general entertainments, but there were many private banquets, one

being given by Professor Lassar. On the evening of the 25th, a large subscription banquet was held in the Blue Hall of the Berlin Exhibition of Fine Arts.

LONDON LETTER.

(*From our regular correspondent.*)

LONDON, Sept. 27, 1907.

The King Edward VII Sanatorium.

This institution, which has been recently completed, is unique in the United Kingdom. It is situated in West Sussex, about eight miles to the north of the South Downs which separate it from the sea. It stands in its own grounds of 150 acres at an altitude of 500 feet above the sea level and about eighteen miles from the coast. Surrounding it are many fine pine woods, affording protection from wind and sun to those taking exercise on the "measured mile." The sanatorium is the result of a gift of $1,000,000 made to the King by a wealthy Jewish financier, Sir Ernest Cassel. It is intended to afford accommodation for the large class of persons of slender means in professional or other employments for whom no provision of this kind hitherto existed. It is open to officers of the army and navy, clergymen, school masters, and any members of the educated classes suffering from tuberculosis of the throat or lungs in the early stages. At the same time the object of the directors is to assist to educate the public regarding the advantages of a sanatorium course both as a curative and as a preventive means of treatment. Flower gardens have been laid out around the building and are utilized for the employment of patients in suitable cases. From end to end—east to west—the building measures 700 feet. All the bedrooms, 100 in number, face the south. They are very large and each has a balcony in front so that the bed and patient can, if necessary, be moved into the open air through the large double French windows which, with the transom over them, occupy almost the whole of the outer side of the room. Each bedroom door has a large window over it, hinged at its lower border and opening downward by a special mechanical contrivance. There is a window in the passage on each landing opening into the outer air opposite each bedroom door. All windows, doors and transoms have to be kept open day and night in all weathers, and thus the rooms are continually flushed with air. All the corners of the bedrooms are rounded off like a modern operating theater. The walls are covered with a patent wall-paper which can be scrubbed with hot water and soap and disinfected. On the ground floor are hydrotherapy rooms containing shower baths, douches, etc. These are ordered in suitable cases to produce the free action of the skin, which is so necessary to all toxemias. The dining-room is lofty and well-ventilated. The sexes sit at separate tables and meet only in the corridor and grounds where promenades *a deux* are strictly forbidden. It is desired to guard against the possibility of sanatorium friendships leading to subsequent marriage, the iniquity of which has been denounced. Separated from the main block are pathologic and research laboratories where original investigations are being carried out and the opsonic index of all patients is estimated. There is a unique open-air chapel built in the form of the letter V, with the chancel at the junction and the two arms representing naves. A gravel court is enclosed between these arms, in which is placed an open-air pulpit for use in fine weather, when chairs for the congregation are transferred from the chapel to the court. In cold weather the floor of the chapel can be heated.

Unsuccessful Attempt to Dismiss a Health Officer for the Zealous Discharge of His Duties.

A peculiar position has arisen at Southend, the nearest seaside resort to London, situated on the estuary of the Thames. Dr. Nash, the health officer, distinguished himself for zeal in the discharge of his duties and incurred the enmity of some members of the town council because he condemned the insanitary condition of their premises—a by no means unusual fate of health officers. The council, therefore, as a preliminary to getting rid of him, when the three years of his appointment was about to terminate, resolved to reappoint him for one year only at a reduced salary. The doctor refused to accept the appointment under these conditions and it was advertised as vacant in the medical journals. But the council soon found themselves in a difficulty. The glaring injustice of their treatment aroused the severest censure in the *Lancet* and *British Medical Journal* and in the presidential address of Sir James Crichton Browne at the annual meeting of the Sanitary Inspectors' Association. The result was a professional boycott and there was only a solitary applicant for the vacant appointment. Moreover, the sanitary reputation of the town—the Mecca of hundreds of thousands of Londoners in search of health—has suffered in consequence of the scandal. Indeed, the council, in its attacks on the doctor, only too well produced, helped in the depreciation of the town. One of the charges made against him was that he had done Southend harm by declaring that he would not bathe off the beach for $5,000, because of the sewage there. Southend is now faced with the prospect of being without a health officer when Dr. Nash's term expires. In disgust, his principal opponent said at the council meeting that "the doctors deserve to be congratulated on the strength of their trade-unionism."

Strike of Hospital Physicians.

The dictatorial methods of lay committees of hospitals in dealing with the medical staffs are often a cause of friction in working and sometimes of unseemly quarrels. But seldom are the physicians driven to the extreme course of striking, as has occurred in the workhouse hospital of Sheffield. For some time, difficulties have existed in the working of the hospital in consequence of the slighting of the medical staff. At last the situation became so intolerable that the entire staff, both resident and visiting, has resigned. This is not the first time on which the staff has resigned and not one resident medical officer has staid for any length of time in the hospital. The cause of the rupture was an attempt to make the matron the administrative head of the hospital, thus usurping the powers of the medical staff. The hospital committee is now threatened with a still greater difficulty, for it is believed that the hospital will be boycotted by the profession and that it will be impossible to obtain a new staff. The action of the staff was taken after consulting with the Sheffield branch of the British Medical Association. The committee of the hospital has written to the branch referring to the possibility of their being unable to obtain the medical assistance necessary for the sick poor in the hospital and placing the responsibility on the branch. They complain that before any action was taken they were not afforded an opportunity to discuss the questions at issue and ask for particulars as to the nature of the difficulties, of which they profess ignorance.

The Care of Children.

It has been decided by the board of education to establish a medical department to advise and assist in the new duties imposed by the education act in regard to the medical inspection of school children. The chief duties of the board will consist in advising and supervising local education authorities as to the manner and degree in which they shall carry out medical inspection, and in considering such arrangements as may be proposed under the act by the local authorities in the process of attending to the health and physical condition of the children. The board will also collect and collate the reports of the local authorities. As a first step, Dr. George Newman, medical officer of the metropolitan borough of Finsbury, and lecturer on public health in St Bartholomew's Hospital, has been appointed chief medical officer of the board.

Investigations Under Government.

The president of the local government board has authorized the following researches under the grant voted by Parliament in aid of scientific investigations concerning the causes and processes of disease. (1) Further study by Dr. Sidney Martin of the chemical products of pathogenic bacteria. (2) Bacteriologic investigation by Dr. F. W. Andrews of the air of sewers and drains. (3) Observation by Dr. W. G. Savage of the bacteriology of "garget" and maladies of the udder and teats of milch cows, and of the possible relation of sore throat in man to pathologic conditions of the udder and teats of these animals; also investigation of paratyphoid fever and its microbic cause. (4) Joint investigation by Drs. M. H. Gordon and T. J. Horder of the life processes of the meningococcus with a view to combating cerebrospinal fever.

University College Hospital.

This great London hospital enters on a new stage of its career in October. It has been rebuilt largely owing to the munificence of the late Sir John Blundell Maple. The new building is magnificent and is in the form of a Greek cross. Opposite is the new medical school built through the generosity of Sir Donald Currie. It provides ample accommodation and the most modern equipment for the various teaching departments.

Poisoning by Absorption of Carbolic Acid.

A fatal case of carbolic-acid poisoning of an unusual kind has occurred. A man was carrying in his pocket a quart bottle of carbolic acid, which was broken. He wiped the acid off his body with a handkerchief and got into a motor bus. He remembered alighting and then lost consciousness. He recovered consciousness so as to be able to explain the circumstances, but he died.

Therapeutics

[It is the purpose of this department to outline an up-to-date management of disease, to suggest scientific treatment for diseased conditions, and to present prescriptions that are simple, useful and palatable. Prescriptions are written in both the metric and apothecaries' systems, but the amounts of the ingredients are NOT exact translations of one system into the other, but quantities convenient for pharmacist and physician. It should be understood that solids are weighed in grams or fractions of grams, while liquids are measured in cubic centimeters; that a teaspoon holds five cubic centimeters, i. e., more than a fluid dram, hence a 100 cubic centimeter preparation will contain twenty doses.]

Functional Irregularity of the Heart.

Dr. James J. Walsh, New York (*International Clinics*, vol. 1, 1907) discusses this subject.

In treating the irregularity due to tobacco, he recommends after stopping the tobacco, strychnin as the most effective drug, but personally believes the tincture of nux vomica acts better than the alkaloid. He believes that the dose of nux vomica has not been used large enough, and advises as follows:

℞.

	c.c.		
Tincturæ nucis vomicæ.....	25	or	fl℥i

Sig.: Twenty drops (10 minims) in water, three times a day, after meals.

"After the first five days of the above dose," he "increases one drop a day for the succeeding five days, and then after another pause increases regularly again until there is some slight twitching of the muscles. The dose to be continued for five or six weeks after this should be about five drops short of this maximum amount."

Many patients complain of palpitation of the heart, combined with symptoms of dyspepsia, and are nervously worried about this heart irregularity. If there is real stomach indigestion, especially flatulency, as often is present, relief of it relieves the heart. Walsh finds but little need of pepsin or other digestants, but believes the most effective remedy to be rhubarb and soda.

℞.

	c.c.		
Misturæ rhei et sodæ	100	or	fl℥iv

M. et sig.: A teaspoonful, in water, three times a day, after meals.

Much stress is laid on this kind of nervous stomach and heart disturbance being benefited by outdoor exercise and fresh air.

When there is considerable pain with these nervous palpitations, without any organic reason, a sort of pseudo-angina pectoris, he again finds the most benefit resulting from the use of nux vomica in large doses.

He emphasizes the necessity, in all of these nervous conditions, of relieving constipation. In these subjective palpitations of the heart he finds the bromids are of value, and especially the hydrobromic acid.

℞.

	c.c.		
Acidi hydrobromici diluti.....	100	or	fl℥iv

Sig.: One-half a teaspoonful (or a teaspoonful) in plenty of water, three times a day, after meals.

This preparation of bromid he finds less likely to cause eruptions on the skin than the bromid salts. If these patients have a tendency to take colds readily, and if they last long and cause congestions of the lungs, he uses ammonium bromid.

℞.

	gm. or c.c.		
Ammonii bromidi	20		ʒiv
Syrupi aurantii florum	50	or	fl℥ii
Aquæ .....ad	100	ad	fl℥iv

M. et sig.: A teaspoonful, in water, three times a day, after meals.

The palpitation that occurs in young people with chlorosis is relieved as soon as iron has improved the condition. Walsh believes that in these patients the new organic irons are entirely uncalled for, and that the old-fashioned forms of iron are the best. In this we heartily agree with him. A proper regulation of the diet, with red meats and vegetables that contain iron, with the administration of soluble Blaud's pills he finds sufficient treatment.

℞.

Pilulas ferri carbonatis No. 20.....

Sig.: A pill three times a day, after meals.

When palpitation of the heart is associated with a weak pulse he finds that tincture of strophanthus is the best treatment, and is better than digitalis.

℞.

	c.c.		
Tincturæ strophanthi	25	or	fl℥i

Sig.: Ten drops, in water, three times a day, after meals.

In all kinds of nervous palpitations we should not forget the influence of suggestion and also the assurance to the patient that "there is no organic disease of the heart."

Walsh has not mentioned the frequency of an increased thyroid secretion as a cause of these nervous hearts. This must always be taken into consideration in palpitation and irregularity of the heart occurring in women.

Gastroptosis.

Dr. George R. Lockwood, New York (*Medical Record*, July 20, 1907), states that in an analysis of 2,000 patients suffering with gastric and intestinal disorders, he has found the above condition present 351 times, or 17.5 per cent. He says: "A distressed stomach will do its work without symptoms unless it becomes atonic," which readily occurs from anatomic reasons.

He divides the treatment into three stages: 1. Before the atony. 2. When the atony may be but temporary. 3. When the atony is permanent.

When there is general loss of weight and the patient is under-nourished, with the evidence of sharp costal angles, gastroptosis can readily occur. Such patients should take vacations, lead an outdoor life, restrict the amount of liquids taken with the meals, and take every means to put on weight. Children with a tendency to this condition must be taken out of school and be kept out of doors.

In the second stage, when the atony of the stomach may be but temporary, Lockwood says that recovery may occur by a strict attention paid to the daily habits of life, by rest physically and mentally, and by a strict limitation of liquids with meals, and by the wearing of an abdominal belt.

When the atony of the stomach has become more or less permanent and gastroptosis is markedly in evidence, Lockwood says that he has abandoned all hope of improvement so long as the patient keeps on his feet. He puts such patients to bed, either at sanatoria or isolated from their families. He delineates a strict daily régime from 7:45 a. m. to 9:00 p. m. The principal parts of this régime are rest, massage, frequent lunches, baths, and careful cleansing of the teeth. He gives cream and considerable oil, and advises against fruit. If there is constipation, he has the descending colon massaged ten minutes three times a day, and uses intestinal irrigations, not introducing more than a pint of solution at a time. He obtains good results from the following prescription:

℞.

	gm. or c.c.		
Chlorali hydrati	3		ʒi
Sodii bromidi	8	or	ʒiiss
Spiritus anisi	25		gtt. iv
Aquæ chloroformi .....ad	100	ad	fl℥iv

M. et sig.: A teaspoonful, in water, three times a day, after meals.

After ten days he reduces the frequency of the above to twice a day, viz.: a teaspoonful after the midday meal and another teaspoonful at bedtime, and during this time gives the following:

℞.

	c.c.		
Tincturæ physostifmatis	25	or	fl℥i

Sig.: Twenty drops, in water, for a few days, after breakfast only, and later after breakfast and supper

After four weeks he increases the physostigma to three doses a day and reduces the chloral and bromid to one dose a day, at night.

The patient's return to his ordinary daily life must be gradual, and for a month after the termination of the rest cure there must be great care against over-exertion, and he must lie down part of each day. The abdominal belt must be worn, extra meals must be continued, liquids at meals interdicted, and no raw fruit allowed.

Dandruff.

The following application is said to be efficient in curing dandruff:

R.	gm. or c.c.		
Hydrargyri chloridi corrosivi	03		gr. ss
Chlorali hydrati	15		ʒss
Resorcinolis	8	or	ʒii
Spiritus myrciæ (bay rum)	125		fl ʒiv
Aquæ	ad 200		ad fl ʒvii

M. et sig.: Rub a little into the scalp, by means of a sponge, once a day.

It is well before applying the above to brush the hair thoroughly, but not roughly or with too stiff a brush. If the hair is dry and not oily, 5 c.c. (or a fluidram) of castor oil should be added to the above prescription.

As soon as the dandruff has ceased to form, the preparation should be used every other day for two weeks, and then once a week.

Before beginning any treatment for dandruff the hair should be thoroughly shampooed and all the brushes and combs thoroughly washed and cleansed with a solution of borax or boric acid. Also there should never be an interchange of brushes with other members of the family. Whether or not dandruff is often a germ disease, certain it is that proper cleanliness prevents its occurrence or recurrence after it has been cured.

Pharmacology

Tests for Suprarenal Alkaloid.

The introduction of the active principle of the suprarenal gland as a medicinal agent makes it necessary for both the physician and the pharmacist to know as much as possible about it. Some information has been supplied by A. Gunn and E. F. Harrison in two articles in the *Pharmaceutical Journal*, London, Aug. 3 and Aug. 31, 1907. The authors have found a convenient test for the suprarenal alkaloid—variously known as suprarenalin, adrin, adrenalin—in the odor resembling phosphoretted hydrogen, which is produced when a solution containing this alkaloid is mixed with a solution of sodium hydroxid. Another delicate test consists in the purplish color which is produced when a suprarenal alkaloid, especially in oily solution, is mixed with a solution of ferric oleate in oleic acid.

The authors found that some specimens of oleic acid gave a purplish color when added to a solution of suprarenal alkaloid, and on investigation they found that these samples of the acid contained iron corresponding in amount to the color of the acid. Applying these tests to specimens of the various preparations of suprarenal alkaloid, Gunn and Harrison found that the oily preparations were often either totally lacking in the active principle or contained very little of it. This indicated that the preparation of oily solutions of this substance presented some difficulties that needed experimentation to overcome. Suprarenal alkaloid and its hydrochlorid and other salts were found to be insoluble in oils and it was necessary, in order to produce a solution which could be used as an inhalant, to make use of an oil which is soluble in alcohol. After some experimentation the following formula was perfected:

INHALANT.

	Parts.
Suprarenal alkaloid	0.10
Absolute alcohol	12.50
Boric acid (free from iron)	5.00
Hydrochloric acid	A sufficient quantity
Eucalyptol	5.00
Oil of gaultheria	2.00
Castor oil sufficient to make	100.00

Add the suprarenal alkaloid to part of the absolute alcohol and add to this sufficient of a mixture of hydrochloric acid (s. g. 1.16) with ten times its volume of absolute alcohol to effect solution; then add the remainder of the alcohol and the other ingredients.

OINTMENT.

The following formula is recommended for ointment of suprarenal alkaloid:

	Parts.
Suprarenal alkaloid	0.10
Boric acid	0.20
Water	3.00
Hydrous wool fat	50.00
Soft paraffin sufficient to make	100.00

Dissolve the boric acid in the water, then add the suprarenal alkaloid and dissolve; mix the solution with the wool fat by trituration, and finally add the soft paraffin.

Or:

	Parts.
Suprarenal alkaloid	0.10
Castor oil	5.00
Hydrochloric acid	A sufficient quantity
Absolute alcohol	2.00
White petrolatum sufficient to make	100.00

The method of mixing is similar to that described for the preparation of the oil.

SUPPOSITORY.

The following formula is given for a suppository:

	Parts.
Suprarenal alkaloid	0.10
Boric acid	0.20
Water	3.00
Anhydrous wool fat	10.00
Oil of theobroma sufficient to make	100.00

Dissolve the boric acid in the water, then add the suprarenal alkaloid, and dissolve; mix the solution with the wool fat by trituration, and add the mixture, with constant stirring, to the theobroma oil previously melted at a low temperature.

The results of tests applied to preparations of this drug as found on the market in Great Britain indicate that they are liable to great variations in efficiency and suggest the propriety of the examination of the various preparations in this country.

To Emulsify Castor Oil.

Palatable and permanent emulsions of castor oil are difficult to obtain. L. Boudier (*Journal de Pharmacie et de Chimie*, Sept. 1, 1907), has experimented with various emulsifying agents to determine which offers the greatest advantages in regard to content of oil, completeness of emulsification, and permanency. Acacia, tragacanth, tincture of quillaya, cocoa butter, lime water, egg yolk, casein, and soap were tried. The results indicated that tragacanth, lime water, casein, and soap permitted an emulsion to be quickly prepared, and in the case of tragacanth and soap the emulsion was permanent. With tragacanth an emulsion containing 1 part of the oil in 3 of the mixture could be made, while with soap a strength of 80 per cent. of oil could be obtained. The formula for the emulsion with soap is as follows:

	Parts.
Powdered soap	2.5
Castor oil	80.0
Distilled water	20.0

Dissolve the soap in the oil by adding the latter in small portions. Pour in the water all at once and shake gently for some minutes. A fine, white, creamy emulsion is obtained that can be kept for several months. As the soap is a laxative the dose need not be larger than that of pure castor oil.

How the Sale of Headache Remedies is Pushed.

The campaign against the indiscriminate use of headache remedies certainly has done some good. But while newspaper reports indicate that there are fewer cases of poisoning and death from these preparations, some excerpts which we quote below from the *New Idea*, a monthly journal owned and published by Frederick Stearns & Co., and devoted to advertising Stearns' products to druggists, show that this firm, heedless of the warnings uttered by physicians against the indiscriminate use of headache remedies, is endeavoring to promote the sale of S H A C (Stearns' Head Ache Cure) in a most reckless—we might almost say criminal—manner.

Shac is put up in wafers and each wafer is stated to contain 4 grains of acetanilid. While shac is sold and "pushed" by Frederick Stearns & Co., Detroit, it is stated on the package to be "prepared for Stearns & Curtius (Inc.), 5 Platt Street, New York."

SHAC ADVERTISED IN SUBWAY CARS.

Stearns' Head Ache Cure (now called SHAC) is being extensively advertised in the subway cars in New York City. SHAC is becoming familiar to thousands of people every day. This benefits not only New York druggists, but all other druggists. SHAC costs you $1.50 a dozen. What other product advertised in this way allows you as great a profit?

SHAC—Stearns' Headache Cure—has been curing aching heads for sixteen years, and at the end of this long and meritorious service, everyone is satisfied. SHAC is sold and used in all parts of the civilized world. What test is better than the test of time? SHAC sells for 25 cents. You make 100 per cent. profit.

While the advertisement states that every one who uses SHAC is satisfied, we venture to suggest that the patient, the poisoning of whom was reported by Dr. Cassady, Bisbee, Ariz., in THE JOURNAL, Dec. 15, 1906, page 2012, was not entirely pleased with the effect of the preparation. In this case, the patient, a woman, took three wafers, an hour apart, though the directions on the package state that only two wafers are to be taken. It must be remembered, however, that most patients think that if a little is a good thing more must be better, and take medicine on that principle. Here is another quotation from Stearns' *New Idea:*

SHAC FOR SHOPPERS.

Shoppers and sightseers often have their pleasure spoiled by headache. This is unnecessary, as by carrying a box of SHAC in the pocket or shopping bag, an aching head may be relieved in a very short time. Wise travelers are learning this. Recommend SHAC to any one contemplating traveling and you will make a friend. SHAC costs you $1.50 a dozen.

Is it any wonder that reports of "heart failure" are so frequent?

Analysis of Elocd Purifiers.

In the *British Medical Journal*, Aug. 31, 1907, the articles on the composition of certain secret remedies are continued by the consideration of the blood purifiers. Extracts from the advertisements of several of these remedies are given to illustrate the extensive and exaggerated claims which the proprietors make for their products. As most of the remedies mentioned are little used in the United States it is not necessary to give the details of the analyses. Some of them contain a substantial dose of potassium iodid, while others have no discoverable medicinal ingredients, but may contain small quantities of the so-called vegetable alteratives. As a rule, the estimated cost is ridiculously small compared with the price at which they are sold. The two remedies which will prove most interesting to American readers are Munyon's Blood Cure and Hood's Compound Extract of Sarsaparilla. The first of these is advertised as follows: "It eradicates all impurities from the blood, and cures scrofulitic eruptions, rash on the scalp, scald head, itching and burning, and any form of unhealthy, blotchy, pimply or scaly skin." Quantitative analysis of these pellets showed 100 per cent. of sugar, and no other ingredient could be detected. Hood's Sarsaparilla showed 7½ grains of potassium iodid to the fluid ounce, with 19.6 per cent. of alcohol by volume. The amount of vegetable residue indicated that the amount of extracts of "sarsaparilla, dandelion, dock, pipsissewa, juniper berries, and other valuable vegetable remedies" in this mixture is not large.

Relations of Druggist and Physician.

The recent meeting of the American Pharmaceutical Association afforded renewed evidence of the tendency of the two professions of medicine and pharmacy to unite their efforts toward the realization of common professional aims and the elevation of the standard of both professions. The relations of druggist and physician was made the subject of frank discussion and criticism, especially in the discussion following Dr. McCormack's paper, published in THE JOURNAL, Oct. 5, 1907, page 1163. This paper recognized a certain antagonism of interest between the druggist and the physician and charged an endeavor on the part of some druggists to prevent legislation designed to further the public interests by regulating the sale of nostrums, etc. In reply, some of the speakers were disposed to deny the imputation and to charge some of the evils to the medical profession. Prof. W. C. Anderson cited the instances in which pharmacists had of their own accord sought to restrict the sale of cocain and other harmful drugs and suggested that the American Medical Association or other competent medical authority decide which of the patent articles now on the market are enslaving and poisoning the public, and he promised that on the publication of such a list these articles would no longer be dispensed in drug stores. As a result of this discussion a resolution was passed directing the legislative committee of the American Pharmaceutical Association to cooperate with the legislative committee of the American Medical Association in the furtherance of such legislation as is designed for the benefit of the community. The scientific papers showed a great interest in the subject of pharmacy from various sources. A number of valuable papers emanated from chemists connected with the great manufacturing firms, which showed a renewed interest in various aspects of pharmacy, especially in standardization of official products made necessary by the Food and Drugs Act. Several of the papers were of practical interest to the physician, notably the papers of F. C. Koch on the standardization of thyroid preparations, and another by the same author on the official methods for assaying pepsin, pancreatin, and diastase; a pharmacologic study of *Cannabis americana*, by E. M. Houghton; an account of the attempts at synthesis of adrenalin and the determination of the purity of commercial samples of hexamethylenamin by D. Base. In practical pharmacy M. I. Wilbert described a method of preparing liquid soap and also discussed the preparation and composition of sodium oleates.

Correspondence

Yellow Fever on the Isthmus of Panama Under the French Régime.

ANCON, CANAL ZONE, Sept. 24, 1907.

To the Editor:—In THE JOURNAL of September 7, page 856, you comment on certain figures published with regard to the old French company. In considering these figures certain conditions must be kept in mind which existed under the French company.

The French were operating in a territory over which they had no police control. They were building a canal through Colombian territory, and bore the same relation to the civil government that the contractors in building the subway bore to the civil government in New York City.

The contractor in New York City knows from his pay roll accurately that he has 1,000 men at work on the tenth of the month, and 900 at work on the eleventh, but he has no means of knowing what has become of the 100 men who disappear from his roll on the eleventh. If they have sickened and death is the result, he does not know it. The same thing occurred to the French in Panama. They knew how many men they had at work, but what became of the men when they disappeared from their rolls they had no means of finding out. They had a hospital located at Ancon, of about 500 beds, but their work was done by contract, and if a contractor placed a sick man in this hospital he paid $1.00 a day for his treatment while in the hospital.

Now the figures published represent the men carried on the pay rolls of the French and the men who died at Ancon Hospital. How many died along the line the French were entirely unable to state. They only know how many died in Ancon Hospital. The figures as published represent a very small part of the mortality which probably occurred. It is human nature for a contractor to discharge a sick man rather than to send him to a hospital and pay $1.00 a day for his treatment.

The general opinion here is that only a small portion of the employés who died, died in Ancon Hospital. We have complete police control of the Zone. All deaths have to be reported to the sanitary department, and no interment can take place with-

out a permit from that department, so that our figures represent accurately the number of deaths occurring. I should, of course, have appended an explanation of this kind when the report went out, and it was a great oversight on my part not to have done so.

The condition as to yellow fever under the French was exactly what occurs in any community of the same size anywhere on the littoral in the tropics. Take a town the size of Panama, from fifteen to twenty thousand people, with about four or five hundred non-immunes, yellow fever attacks these non-immunes, they have the disease, become immune, and the fever disappears. In the course of years non-immunes again come in, fever is again brought in from the outside, and again exhausts itself. We find many smaller cities in the tropics where this has been the case.

If at any time during this period a steady flow of non-immunes comes in for any number of years, yellow fever will keep up as long as the non-immunes keep coming in. This occurred in Panama. From 1881 to 1889 the work was vigorously pushed by the French, and whites were constantly brought from Europe for their force. In January, 1889, the company failed; non-immunes ceased to come in and yellow fever disappeared.

While they continued their work, their force was small, and was made up exclusively of employés who were immune, left over from the French company. In 1897 they had six deaths from yellow fever. This meant that in the seven or eight years since the failure of the old company, a few non-immunes had been added to their force, and as yellow fever was bad that year in Panama, these few non-immunes contracted it.

The French were practically free from yellow fever from 1889, the time the old company failed, to 1904, when they turned the work over to us, a period of about fifteen years, and this would probably have continued indefinitely if they had worked along with the same force. It merely meant that the small force of employés that they were working for the purpose of keeping the concession, were made up of immunes selected from their old force.

The statistics for the city of Panama are obtained from the cemetery records, which, I think, represent accurately the deaths occurring in the city. The same causes acted in the city of Panama up to 1889. The active progress of the work on the canal attracted many whites to the city of Panama and they had many deaths from yellow fever. When the company failed the whites ceased to come to the city and yellow fever stopped.

A change of garrison occurred and a company was brought from the interior of Colombia. They had yellow fever until they became immunized. About 1899 a protracted and bloody civil war occurred in Colombia. Considerable bodies of troops were brought into Panama and yellow fever prevailed until the war ended in 1903.

In 1904, we began to bring whites in for work on the canal and yellow fever continued until we took measures to get rid of it. The French at no time had 3,000 non-immunes on their work, and I doubt very much if at any time in the history of Panama there have been 3,000 non-immunes present on the Zone at any one time. We have just now fully 15,000 non-immunes in this territory, over 10,000 actually on our pay rolls.

I mean to point out that we have four or five times as many non-immunes on the isthmus as were ever here before, and unless some unusual conditions prevailed, such as has never previously occurred on the isthmus, we would be having such an epidemic of yellow fever as had never been known in Panama. If such an epidemic were prevailing, moreover, we would know the number of sick and dead very much better than was ever before known on the Isthmus.

W. C. GORGAS, M.D.,
Chief Sanitary Officer, Isthmian Canal Commission.

Local Responsibility for Care of Tuberculous.

AUSTIN, TEXAS, Sept. 9, 1907.

To the Editor:—In THE JOURNAL, July 13, 1907, page 151, in an editorial, you criticise the health authorities of Texas for their proposed action in barring from the state indigent and hopeless individuals with tuberculosis. Being state health officer of this state, I took the article in good part, as it was fair criticism given in the right spirit. I felt at the time that you did not understand my views, however, because the lay press jumped to the conclusion that my restrictions would be accompanied by pest houses, yellow flags and shotguns, and they gave me a good deal of adverse discussion.

In THE JOURNAL, Aug. 10, 1907, page 506, however, I note an item which advocates fixing the responsibility on the communities in which the tuberculosis originates. This article is very suggestive, and I wish to discuss it simply for the purpose of coming to some conclusion as to what is implied by "fixing the responsibility."

In the first place, the responsibilities imply punishment or penalization. To state that a locality is responsible for the tuberculosis therein contained distinctly implies that said community shall suffer the consequences, whatever they may be, of having permitted the disease to propagate. Of course, the only possible consequences are that the community should keep all its consumptives to itself. This is not for the purpose of punishing the guilty, but for protecting the innocent. We certainly can not fine a community for having tuberculous individuals among its inhabitants. Still less can we put them in jail. How, then, are we to exercise an inhibitory influence on the citizens so as to make them cease those practices which cause the spread of the disease? I think the easiest and most practical manner is to force the individual community to look after its own infected persons.

I most distinctly am in favor of the migration of all individuals where there is a chance of benefit, but said migration should not result in the detriment of any other community. In other words, if a laborer is incapacitated by tuberculosis so that he can not work, it is only fair that his own locality should bear the expense of caring for him. And if it decided that a certain climate might be beneficial to him, his native state should provide for him even though he be in a foreign state.

Why do I advocate this procedure? I can give you a very striking reason. Recently in our state legislature a bill passed the house appropriating $150,000.00 for the purpose of erecting a sanatorium for the tuberculous poor in Texas. We were desirous of improving conditions in our state. But the senate refused to pass the bill, and one of the principal objections was that the proposed sanatorium, if erected, would soon be overflowing with indigent immigrants from other states, while the institution was actually an advertisement, drawing an undesirable class of newcomers into our state.

Now, this condition of affairs is enough to start one to thinking. In the first place, it is undoubtedly true that Texas has been immeasurably imposed on in the past in this manner. The majority of the indigent consumptives in one of our cities have not been within the confines of Texas thirty days. It seems that a certain proportion of persons sick with this disease choose to go to New Mexico, Arizona or Colorado. But Texas is closest to the East and South, and the poorest class of sufferers subside in Texas because they have no choice. Hence we get not only those who think our climate is the most desirable, but all the rest, too.

We are in great need of free sanatoria all over the country, but before we can get them built we must guarantee that the citizens of the state doing the building will get the benefit of the structures. It has always been a fact that men look out after their individual affairs more carefully than after public affairs. A man should have the fruits of his toil. It is on an individualistic foundation that our civilization is based. Each community should care for its own poor and sick. By localizing the responsibility we can get stronger efforts toward correcting these evils. If there were a guarantee that, once a state were free from tuberculosis it would be kept free, the citizens would work much more heroically toward obtaining that result.

In your recent article you state that a certain select group of cases will always be benefited by migration, and you mention 15 per cent. as sanguine for this class of cases. I agree

with you entirely and am glad to accept your figures. If I could limit the number of immigrants to 50 per cent. of our present number I should feel that I had accomplished a great deal. I think you place the percentage too low, and I gladly consent that a certain percentage of cases should be permitted to enter Texas. But I would insist that the state in which the patient contracted the disease should support him in case he is indigent.

But there is another excellent reason for requiring the bulk of these patients to stay at home. When they travel they live in hotels and spend much time in upholstered railway coaches. For instance, I have on my desk now a letter telling of a consumptive in the last stages who occupied a berth in a sleeping car from St. Louis to Abilene, while another individual occupied the same berth during the remainder of the trip to El Paso. It is true sanitary measures limit the ravages of the disease, but, in spite of all, travel vastly increases its spread.

As to other measures, we already require the screening of lodging houses, boarding houses, hotels and hospitals, and in the next few months it is our intention to require the disinfection, at stated intervals, of all these edifices. Also in the near future we wish to bring about the compulsory registration of consumptives by physicians throughout the state. This move will necessitate the disinfection of private dwellings in some instances, and it will be done possibly at state expense, possibly at municipal or individual expense.

W. M. Brumby,
State Health Officer of Texas.

Medical Economics

THIS DEPARTMENT EMBODIES THE SUBJECTS OF ORGANIZATION, POSTGRADUATE WORK, CONTRACT PRACTICE, INSURANCE FEES, LEGISLATION, ETC.

Special Report on the New York Life and Cut Rate Examinations.

We reproduce herewith, from the October number of the *Kentucky Medical Journal*, the special report of the insurance committee which will be submitted at the coming session of the Kentucky State Medical Association. This report covers the ground so thoroughly that comment is unnecessary. The facts set forth apply not only to Kentucky but to the entire country. This report should be read by all interested in the insurance question. It is as follows:

Your committee has had the privilege of reading a copy of the secret bulletin the New York Life Insurance Company has recently sent out to its agents in which the medical fee question is discussed at some length. The statements contained therein are so deliberately misleading that they merit some notice.

In the opening paragraph it is stated: "In 1895 at the time when the New York Life was instituting *important economics* (italics ours), a graded fee schedule for all medical examinations was adopted after a *careful study* of the subject." In the light of the Hughes investigation where it was shown that the company expended more money in political campaign contributions and for such other unwarranted and dishonest purposes, it seems pertinent to ask if the only *important economics* resorted to by this company were not against their faithful medical force, at that time helpless because unorganized, and if the careful study referred to did not end when it was found that in 1895 the medical profession was wholly powerless through lack of that unity it is now attaining.

The historical part of their statement continues that they did not believe it right to burden small policies with so large a fee. It is to be remembered that at the same time this company was paying many of its agents 75 per cent. to 90 per cent. of the first year's premium on every policy. The company, in the public prints, is now boasting that it is saving millions to the policy holders through economies forced on it by the Hughes committee, public opinion, and the state insurance commissioners. But it is to be remembered that the same officials that were guilty of all this exposed extravagance are still in the saddle. John A. McCall, far the best of the bad lot, dead, largely because of their desertion, as his son said, is the only one of their old guard who is out. They may be good while under fire, but let observation slacken a little, and another commission is likely to be needed to find a relapse into former methods of gross favoritism and mismanagement. The next paragraph is worth quoting:

"Competitors have repeatedly attacked the company's motive—they say it was an unwise move—a cheap-John proceeding—that it antagonized the medical profession—that as a result of such antagonism the company received inefficient medical service. Such utterances are false. Experience in mortality and expenses proves that our company's judgment was sound and that the course pursued has been wise."

We do not know what the New York Life's competitors think of this course, but we do charge that the company's motive was a mean and sordid one—that it has proved itself a niggardly and expensive, penny-wise and pound-foolish policy; that it is distinctly antagonistic to every self-respecting member of the medical profession, and that this company does get a notoriously inefficient force and work. Your committee knows, of their personal knowledge, that a majority of those this company now has on its lists in Kentucky are notoriously incompetent to make examinations, and, from other companies, that other physicians have always been preferred as examiners than those willing to work for the New York Life.

The next paragraph is startling to the uninitiated, and a joke to the rest:

"Since its adoption in 1895 the New York Life has never departed from this graded fee schedule, and has no intention of doing so in the future."

The New York Life has permitted in the past, and now permits its agents, in order to retain a "desirable" examiner, to add $2 to his examinations wherever necessary, to be charged to the company as mileage. This money is paid directly by the company, and its result, however intended, is a direct debauchment of the medical force, the only department besides the actuary's left unscathed by the Hughes committee. In many other places the agent is paying the $2. The only class of its examiners who get only $3 is that which knows no better, or is so low grade as to be glad to get anything. They next announce that they are gradually adopting a system of salaried examiners which is far cheaper and more efficient than their old plan. *And right here, and in the concluding paragraph, is the crux of the whole matter.* Knowing they are defeated in their effort to secure cheap examiners by the united stand of the profession, and not having the moral courage to acknowledge defeat, they have sought and are now offering salaries to tempt examiners to them. In one town of less than 10,000 people where examinations never cost the New York Life more than $600 per year, *when they had three agents* producing between three and five hundred thousand annually, this company is now paying an examiner $360 a year and $3 more for each examination. One month he says he made two examinations and received $36. The next month he made three examinations and received $39. *And this examiner is not getting half what he could have gotten if he had held out a little longer.* This is not an isolated example, but is a general policy being adopted all over the country. This may be economy to the frenzied financiers, but it is a plain waste of policy holders' money in our view. . . .

Now a final word of advice to those still examining for the New York Life. If it is your abiding purpose to sell your souls to these men by branding yourselves as "guilty of a breach of professional courtesy" and breaking your pledge, *sell high.* If you are getting fees, you are foolish, for they will give you a salary to keep you, and it is your fault if the salary is not a good one. They have plenty of money, and if you intend deserting your pledges and being a traitor to your profession, *for money*, be sure to get enough to soothe your conscience, for you will need it. Respectfully submitted,

C. Z. Aud, Chairman.

POSTGRADUATE COURSE FOR COUNTY SOCIETIES.

DR. JOHN H. BLACKBURN, DIRECTOR,
Bowling Green, Kentucky.

[The Director will be glad to furnish further information and literature to any county society desiring to take up the course.]

First Month.

FOURTH WEEKLY MEETING.

Papilloma.

Origin, Structure, Varieties.

Warts: Microscopic section, distribution, number, pigment, secondary changes.

Villous Papilloma: Structure, gross and microscopic, prognosis.

Intracystic Papilloma: Structure, gross and microscopic, distribution.

Psammoma: Structure, chemistry, location, prognosis.

Adenoma.

Structure, varieties, capsule, fluid, recurrence, infiltration, secondary changes.

Dermoids.

Structure, Distribution.

Sequestration Dermoids: Location, mode of origin, contents, prognosis.

Tubulo-Dermoids: Distribution, contents, size.

Lingual, Branchial and Rectal: Location of each.

Ovarian Dermoids: Origin, structure, contents, size, age.

Moles: Distribution, structure, secondary changes.

Teratoma.

Differentiate from dermoids.

Cysts.

Mode of Origin, Structure, Contents.

Retention cysts, tubulo-cysts, hydroceles and gland cysts.

Cancer of Uterus.

Cancer of Cervix.

Pathology—Squamous Celled: Origin, gross and microscopic changes in cervix, excrescences, degenerative changes, ulceration, excavation, extension to vagina.

Adenocarcinoma: Origin, changes in cervix, rate of growth, secondary changes.

Extension to surrounding structures. Metastasis.

Diagnosis: History, age, child-bearing. Hemorrhage, leucorrheal discharges, pain. General symptoms, cachexia, etc. Physical examination, touch, sight and smell. Differences between squamous-celled and adenocarcinoma in early stages. Microscopic examination. Method of getting specimens, staining and mounting. Differentiate normal and malignant specimens.

Treatment: Prophylactic—Repair of lacerated cervix.

Radical—Hysterectomy, probability of recurrence.

Palliative—Curettement and cauterization, medicinal treatment.

Use of X-rays.

Cancer of Body of Uterus.

Pathology: Adenocarcinoma, origin, extent of growth, degeneration, ulceration, extension through wall, rate of growth.

Extension to adjacent structures. Metastasis.

Diagnosis: Age, child-bearing. General symptoms, hemorrhage, discharge, pain. Physical signs by touch, sight and smell. Microscopic examination, only means for early diagnosis.

Treatment: Radical, hysterectomy, technic. Palliative.

Medical Education and State Boards of Registration

COMING EXAMINATIONS.

TEXAS State Medical Examining Board, Fort Worth, October 21. Secretary, Dr. G. B. Foscue, Waco.

INDIANA Board of Medical Registration and Examination, Indianapolis, October 22-24. Secretary, Dr. W. T. Gott, Crawfordsville.

ILLINOIS State Board of Health, Great Northern Hotel, Chicago, October 23-25. Secretary, Dr. J. A. Egan, Springfield.

NEVADA State Board of Medical Examiners, Carson City, November 4. Secretary, Dr. S. L. Lee, Carson City.

LOUISIANA Homeopathic Board of Medical Examiners, New Orleans, November 4. Secretary, Dr. Gayle Aiken, 1102 St. Charles Ave., New Orleans.

MAINE State Board of Registration of Medicine, City Building, Portland, November 12. Secretary, Dr. Wm. J. Maybury, Saco.

CONNECTICUT Homeopathic Medical Examining Board, New Haven, November 12. Secretary, Dr. Edwin C. M. Hall, 82 Grand Ave., New Haven.

CONNECTICUT Eclectic Medical Examining Board, New Haven, November 12. Secretary, Dr. T. S. Hodge, Torrington.

CONNECTICUT (Regular) Medical Examining Board, City Hall, New Haven, November 12-13. Secretary, Dr. Charles A. Tuttle, New Haven.

MASSACHUSETTS Board of Registration in Medicine, Room 15, State House, Boston, November 12-14. Secretary, Dr. Edwin B. Harvey, State House, Boston.

WEST VIRGINIA State Board of Health, Waldo Hotel, Clarksburg, November 12-14. Secretary, Dr. H. A. Barbee, Point Pleasant.

MISSOURI State Board of Health, Southern Hotel, St. Louis, November 19-21. Secretary, Dr. J. A. B. Adcock, Warrensburg.

FLORIDA (Regular) Board of Medical Examiners, Jacksonville, November 20-21. Secretary, Dr. J. D. Fernandez, Jacksonville.

Virginia June Report.—Dr. R. S. Martin, secretary of the Medical Examining Board of Virginia, reports the written examination held at Lynchburg, June 19-22, 1907. The number of sections examined in was 9; total number of questions asked, 100; percentage required to pass, 75. The total number of candidates examined 135, of whom 73 passed, including 2 osteopaths, and 24 failed. Thirty-eight candidates took a partial examination and 5 were registered through reciprocity. The following colleges were represented:

PASSED.

College.	Year Grad.	Per Cent.
Howard University	(1907)	81
University of Southern California	(1903)	85
Rush Med. Coll.	(1895)	80
Baltimore Med. Coll.	(1907) 75, 77,	78
University of Maryland	(1906) 76; (1907)	83
College of P. and S., Baltimore	(1889) 75; (1907)	84
Harvard Med. School	(1900)	80
North Carolina Med. School	(1888) 80; (1901)	80
Leonard Med. School	(1906) 75; (1907) 76, 76,	80
Vanderbilt University	(1907)	75
University of Nashville	(1907)	75
University Coll. of Med., Richmond, (1900) 85; (1907) 75, 75, 76, 76, 77, 77, 78, 79, 79, 79, 79, 79, 80, 80, 81, 81, 82, 82, 82, 82, 83, 85.		
University of Virginia (1904) 76; (1907) 75, 77, 77, 78, 79, 80, 80, 82, 83, 84, 85, 85.		
Medical Coll. of Virginia (1905) 75; (1906) 75; (1907) 75, 75, 75, 78, 78, 78, 78, 78, 79, 80, 81, 84, 85.		
Queen's University, Ontario	(1906)	80

FAILED.

University of Maryland	(1905) 73; (1907)	70
Baltimore Med. Coll.	(1905) 70; (1907)	70
North Carolina Med. Coll.	(1902)	60
Leonard Med. School, (1905) 70, 73; (1906) 46, 73; (1907) 49, 64, 71, 72.		
Hospital Coll. of Medicine, Louisville	(1905)	69
Meharry Med. Coll.	(1905)	71
University of the South	(1906)	73
Chattanooga Med. Coll.	(1907)	62
University Coll. of Med., Richmond	(1907)	73
University of Virginia	(1905) 73; (1906) 70; (1907) 68, 73,	73
Christ's Institution*	(1904)	73

LICENSED THROUGH RECIPROCITY.

College.	Year Grad.	Reciprocity with.
Georgetown University	(1900)	Dist. Colum.
University of Maryland	(3, 1905) (1906)	Maryland

* This school, the Medico Chirurgical College of Christ's Institution (colored), was chartered in 1900. The Maryland Board of Medical Examiners refused to recognize the diplomas, but was compelled by a writ of mandamus to examine the graduates. The court ruled that, under the Maryland law, since the institution was legally incorporated, the equipment, curriculum, hours of study, etc., could not be considered. The character of the institution can further be seen by a perusal of its "Fifth Annual Commencement and Catalogue," which was "Edited by the Rev. Dr. P. Thomas Stanford, A.M., M.D., D.D., LL.D., Ph.D., Vice President." The sources of these multitudinous degrees are not given.

Gate City Medical College Exposed.—This college, located in Texarkana, conveniently near the state line between Arkansas and Texas, has been mercilessly exposed in the *Journal of the Arkansas Medical Society* for August. A circular recently sent out by this college offers "a course of Home Reading (Mail Course) in Medicine for $25," on finishing which a "special diploma" is granted. The statement is also made that "it takes from four to six months to finish a Mail Course." There had long been many rumors that the college was little better than a diploma mill, but when summoned to appear before the Arkansas Medical Society, Dr. J. W. Decker, the dean, denied the allegations and invited an inspection. The inspection was made and a part of the report is as follows: "A medical college organized and launched in the midst of an era of the greatest medical energy and progress the world has ever known, (a) that has practically no educational requirement for admission; (b) that is without an anatomic laboratory; (c) that does not require its students to dissect; (d) that makes false representations in its catalogues, thereby attracting many students; (e) that is without sufficient hospital advantages, thus depriving students of the best means of studying diseases clinically; (f) that gives lectures by mail for which credit is given; (g) that is conducted dually, brazenly, irregularly and unprofessionally, in a Dr. Jekyl-and-Mr. Hyde manner, should meet its just reward at the hands of the courts. The 'stigmata' of fraud were so much in evidence as

to warrant the conviction that not only is Dr. Decker guilty of unprofessional conduct meriting the unqualified condemnation of the profession, but the charter under which he is authorized to conduct his school should be summarily revoked by the Arkansas and Texas authorities, thereby putting an end to a brief but disgraceful chapter in the history of an Arkansas-Texas medical college."

Book Notices

TRACHEO-BRONCHOSCOPY, ESOPHAGOSCOPY AND GASTROSCOPY. By Chevalier Jackson, M.D., Laryngologist to the Western Pennsylvania Hospital, etc. With five colored plates and other illustrations. Cloth. Pp. 199. Price, $4.00. St. Louis: The Laryngoscope Co., 1907.

The author introduces this work with a brief historical sketch of the work previously done, from 1807, when Bozini examined the upper end of the esophagus, to the present day, when Jackson examines the stomach interior and demonstrates lesions of the stomach walls and removes foreign bodies from this viscus. A complete description of the various instruments occupies Chapter 2, with the various lighting methods and the advantages and disadvantages of each. A number of the author's own instruments are shown. The whole book is thoroughly illustrated and every detail of technic is worked out for the practical benefit of the reader. The anatomy, both normal and pathologic, of the trachea, bronchi, etc., is discussed, particularly in relation to the methods of examination, and profuse illustrations depict the endoscopic findings. Radiographs show the methods of localizing foreign bodies and deformities and tumors of the esophagus and bronchial tree, etc. Considerable space is given to the original work done by the author on gastroscopy. A complete bibliography is appended and lastly a series of five colored plates with description of the conditions shown, embracing all conditions found in this region, such as tracheal papilloma, treacheal compression, egg shell in larynx, tracheal stenosis, views of normal bronchi, etc., esophageal tumors, wounds, foreign bodies, and gastric ulcers.

MANUAL OF SURGERY. For Students and Physicians. By Francis T. Stewart, M.D., Professor of Surgery, Philadelphia Polyclinic. Illustrated. Flexible Leather. Pp. 778. Price, $3.50 net. Philadelphia: P. Blakiston's Son & Co., 1907.

This is a concise presentation of the subject of surgery "for the undergraduate, whose crowded hours demand a manual stripped of verbiage and unessentials, and for the medical practitioner who seeks a guide to present day surgery." This purpose has been admirably carried out. Discussion of theories and intricate details are conspicuous by their absence, while the more important and proved facts of surgery are expressed in clear and terse sentences that carry conviction to the student. Perhaps a more liberal employment of heavy type and a system of numbering in one, two, three order, of the more important points in etiology, pathology, symptoms, etc., might have aided the student in assimilating the facts presented. The illustrations are well executed, numerous, and many of them new, serving excellently in elucidating the subjects under discussion. Taken all together, this little manual should find many warm friends among undergraduate students.

PRINCIPLES AND APPLICATION OF LOCAL TREATMENT IN DISEASES OF THE SKIN. By L. D. Bulkley, A.M., M.D., Physician to the New York Skin and Cancer Hospital. Cloth. Pp. 142. Price, $1.00. New York: Rebman Company, 1907.

This work is not presented with the idea that it is a complete treatise on the local treatment of skin diseases, but as an exposition of the author's individual method of handling many of the more common dermatoses. The book is full of good advice. The directions as to the proper way in which to apply treatment are full and explicit. The author lays emphasis on the importance of studying the general condition of the patient and of trying to put him or her in the best possible physical condition before commencing local treatment. The book will be of special interest to the general practitioner.

SURGERY OF GENITO-URINARY ORGANS. By J. W. S. Gouley, M.D. Cloth. Pp. 531. Price, $3.00. New York: Rebman Company, 1907.

This book is made up of short annotations on the nature, diagnosis and treatment of certain diseases of the urogenital tract. It is particularly adapted for beginners in this field of work. Dr. Gouley's vast experience in this important branch of surgery has well fitted him to place such a work before the profession.

TALKS TO FIRST YEAR NURSES. By Alfred T. Hawes, M.D. Cloth. Pp. 190. Price, $1.25 net. Boston: Whitcomb and Barrows, 1907.

This little book is a collection of practical hints to nurses. As the preface states, the talks are elementary in character and are not to be considered as thorough discussions of the subjects of which they treat.

Queries and Minor Notes

ANONYMOUS COMMUNICATIONS will not be noticed. Queries for this column must be accompanied by the writer's name and address, but the request of the writer not to publish name or address will be faithfully observed.

ENTRANCE TO THE ARMY AND NAVY MEDICAL SERVICES.

MAPLE HILL, KAN., Sept. 29, 1907.

To the Editor:—Will you please answer the following questions in Queries and Minor Notes?

I. What are the qualifications for entrance into the Army and Navy Medical Services?

II. What are the salaries and financial prospects in the services?

III. Are there openings now, and when will the examinations be held?

IV. What are the names and addresses of the heads of departments to whom one should apply? C. E. Y.

ARMY.

ANSWER.—I. *Qualifications.*—Candidates for the Army Medical Service must be citizens of the United States, between the ages of 22 and 30, and must be graduates of a reputable medical school, legally authorized to confer the degree of doctor in medicine. In addition, a candidate must have had one year's hospital experience or the equivalent thereof in practice, and must pass an examination in two parts: (1) A preliminary examination; (2) a final or qualifying examination, with a course of instruction at the Army Medical School intervening.

I. The preliminary examination is as follows:

(*a*) Physical: Candidates who fall below 65 inches in height will be rejected. Each candidate is also required to certify that he labors under no physical infirmity or disability which can interfere with the efficient discharge of any duty which may be required. Errors of refraction, if vision is not below 20/40 in either eye, are not causes for rejection, provided they are not accompanied by ocular disease and are entirely corrected by appropriate glasses.

(*b*) Written examination on the following subjects: Mathematics (arithmetic, algebra and plane geometry), geography, history (especially of the United States), general literature, Latin grammar, and the reading of easy Latin prose. English grammar, orthography and composition will be determined from the applicant's examination papers.

This examination will be omitted in the case of applicants holding diplomas or certificates from reputable literary or scientific colleges, normal schools or high schools, or of graduates of medical schools which require an entrance examination satisfactory to the faculty of the Army Medical School.

(*c*) Written examination in the following subjects: Anatomy, physiology and histology, chemistry and physics, materia medica and therapeutics, surgery, practice of medicine, obstetrics and gynecology.

No allowance is made for the expense of applicants undergoing examination. Applicants who attain a general average of 80 per cent., are entitled to employment as contract surgeons at the rate of $100 a month, including an eight months' course of instruction at the Army Medical School, Washington, D. C., commencing on October 1, next succeeding. 2. At the end of this course they undergo a final examination comprising the subjects taught in the school, namely: Duties of medical officers, medical department administration and customs of the service, military hygiene, clinical microscopy and bacteriology, military surgery, military and tropical medicine, sanitary chemistry, Hospital Corps drill, operative surgery, ophthalmology and optometry, and *x* ray work. This is preceded by a thorough physical examination.

At this examination 80 per cent. entitles the applicant to a certificate of graduation at the school. Candidates approved as satisfactory, and who pass a successful clinical examination in addition to the final, will be selected for commissions, according to their relative standing by the total number of points in professional subjects in all examinations.

II. *Salaries and Financial Prospects.*—The following annual salaries, in divided monthly payments, are increased by 10 per cent. for each period of five years' service until a maximum of 40 per cent. is reached: An assistant surgeon, with the rank of first lieutenant, mounted, receives $1,600 *per annum*, or $133.33 monthly. At the end of five years he is promoted to captain and receives $2,000 a year, which, with the increase of 10 per cent. for five years' service, is $2,200, or $183.33 a month. After ten years' service the pay would be $2,400 annually, or $200 a month. The pay attached to the rank of major is $2,500 a year, which, with 10 per cent. added for each five years' service, becomes $3,000 after ten years' service, $3,250 after fifteen years and $3,500 after twenty years. The monthly pay of lieutenant-colonel, colonel and brigadier general is $333.33, $375 and $458.33, respectively. Officers, in addition to their pay proper, are furnished with a liberal allowance of quarters according to rank, either in kind or, where no suitable government building is available, by commutation; fuel and light therefor are also provided. When traveling on duty an officer receives mileage for the distance traveled, including the travel performed in joining first station after appointment as assistant surgeon; the amount allowed is sufficient to cover all expenses of journey. He further receives transportation for professional books, papers, and reasonable baggage, forage, stabling and transportation for necessary horses. Necessary instruments and appliances are supplied; well-selected professional libraries are maintained at each hospital, and current issues of representative journals are furnished for use. Leave of absence is granted on full pay one month each year. Retirement may be ordered at any time for disability incurred in the line of duty, or after forty years' service; retirement is compulsory at the age of 64. Retired officers receive three-fourths the amount of the pay proper at the time of their retirement.

III. *Openings and Examinations.*—There are now 23 vacancies in the Medical Corps of the Army. The next examination will be held in the spring of 1908, probably in April. Should the bill to increase the efficiency of the Medical Department of the Army become a law at the coming session of Congress examinations will probably be held immediately thereafter.

IV. *Application.*—Permission to appear before the board is obtained by letter to the Secretary of War, which must be in the handwriting of the applicant, giving the date and place of his birth and the place and the state of which he is a permanent resident, and inclosing certificates, based on personal acquaintance, from at least two reputable persons as to his citizenship, character and habits. Applications for permission to appear for examination, prepared in accordance with requirements before mentioned, should be sent to the Surgeon General, U. S. Army, and when completed will be filed in his office until the next succeeding preliminary examination shall have been decided on, when formal invitations to appear before a board will be issued.

NAVY.

I. *Qualifications.*—Applicants must be citizens of the United States, between the ages of 21 and 30. Testimonials as to character and professional fitness, diplomas and a certificate of citizenship must be submitted at the time of examination. Hospital experience or one year's practice, though not essential, is desirable. The candidate must pass a triple examination, lasting nine days in all, before a Naval Medical Examining Board.

1. *Physical Examination.*—The candidate is required to certify, on oath, that he believes himself to be free from all mental, physical and constitutional defects. Acuteness of vision, 12/20 for each eye, unaided by glasses, but capable of correction, by aid of lenses to 20/20 is obligatory. Color perception must be normal and the teeth good.

2. *Professional Examination.*—This consists of both written and oral examinations in the following subjects: Anatomy and physiology, surgery, medicine, pathology and microscopy, obstetrics and medical jurisprudence, materia medica and physiologic action of drugs, chemistry and physics, hygiene and quarantine, general aptitude, literary and scientific branches. A practical examination in the following is also required: Bandaging; tourniquets; four operations on cadaver; clinical cases (a written report being made in one case giving history, diagnosis, prognosis, treatment, one prescription, at least, being written out in full, in Latin); urinalysis (chemical and microscopic examination of one specimen of urine); practical microscopy and recognition of five mounted specimens (histologic, pathologic and bacteriologic); recognition of surgical instruments.

3. *Collateral Examination.*—This embraces spelling, punctuation, the use of capital letters, grammar, arithmetic, geography (descriptive and physical), languages, history, general literature, elementary botany, geology and zoology. While due credit is given for a knowledge of languages and the sciences it is not essential except in the case of physics, but a knowledge of the common school branches is essential. This examination will be omitted in the case of applicants holding diplomas or certificates from reputable literary or scientific colleges, normal schools or high schools, or of graduates of medical schools which require an entrance examination satisfactory to the Naval Medical Examining Board. No allowance is made for the expense of attending these examinations.

II. *Salaries and Financial Prospects.*—The salary of assistant-surgeons is $1,760 *per annum;* allowance, $432. Passed assistant-surgeons receive $2,200 *per annum;* allowance, $576; after five years in service, $2,400, and after ten years, $2,600. Surgeons after ten years in service receive $3,250 *per annum;* allowance, $720; after fifteen years, $3,500. Medical inspectors, after fifteen years in service receive $4,000 *per annum;* allowance, $864. Medical directors, after fifteen years in service, receive $4,500 *per annum;* allowance, $1,008. Surgeon general receives $5,500 *per annum;* allowance, $1,152. Mileage is allowed when traveling under orders. Every requirement of modern medicine is liberally supplied. The tenure of office in the Medical Corps of the Navy is for life, unless sooner terminated by removal, resignation or disability.

III. *Openings and Examinations.*—There are 43 vacancies in the grade of assistant-surgeon. Examinations are held at least once a month throughout the year. All successful candidates will receive appointments as soon as qualified and in the order of merit reported by the examining board.

IV. *Application.*—Application blanks may be obtained from the Secretary of the Navy; they must be filled out in the applicant's own handwriting.

Boards have been organized at the Naval Hospitals at Chelsea, Mass.; New York, N. Y.; Philadelphia, Pa.; Mare Island, Cal., and the Naval Medical School, Washington, D. C., for the examination of candidates for the position of Acting Assistant-Surgeon, U. S. Navy.

Requirements.—Applicants must be citizens of United States, between the ages of 21 and 28, and physically sound. The candidate must pass an examination similar to that for Assistant-Surgeon, but less exacting. The pay is $1,400 *per annum*. On passing the examination, the candidate receives his appointment at once and is ordered to the U. S. Naval Medical School at Washington, on October 1, following, for a course of instruction, where he will have ample opportunity to prepare for the examination for Assistant-Surgeon.

THE DIVISION OF FEES.

Sept. 17, 1907.

To the Editor:—Should a surgeon divide with the general practitioner who sends him the case? Most practitioners in this locality say that since the family and others hold their doctor responsible for advising for or against operation and either credit or discredit him, depending on the result of the operation, the cost of the operation should include as well as the surgeon's fee, a fee for the responsibility which the family physician is forced to assume, but for which he can not well collect separately. They hold that the family physician's fee should be greater than he can collect for the visit at which the operation was advised, just as his services are better rewarded in consultations or lunacy commissions, and in legal cases. Most of the surgeons here divide the price of operation with the attending physician; several do not, claiming the practice to be unethical, a viewpoint which a surgeon may take for purely commercial reasons. The first group of surgeons hold that they operate for the family doctor on his patient and receive as their fee a part of the entire cost of operation—the others claim that the case being beyond the care of the attending physician, it is, temporarily at least, transferred to them, and that a division of the cost of operation would represent a commission, which is condemned in Section 4 of Article VI of the Principles of Medical Ethics. What does THE JOURNAL think the right practice and will it not invite an expression of opinion from general practitioners? X. Y. Z.

ANSWER.—Our correspondent begs the question, when, referring to fees justly due for "the responsibility which the family physician is forced to assume" regarding the necessity for an operation, and in the selection of a suitable operator, he assumes that "he can not well collect [them] separately." Why can not he well collect them separately? He ought to do so, and in most instances—certainly in as large a proportion of cases as he can collect fees at all—he can, if he goes about it properly. If he can not, whose fault is it? Surely that of the medical profession itself, which has failed to impress on the public the true relation of the family physician to the surgeon, specialist, and consultant, and his share in their conjoint results.

Let us get down to first principles: 1. To obtain money for one purpose, even though of itself a legitimate one, under the pretense that it is for another purpose, is to defraud. 2. To defraud is dishonesty. Therefore it is clear that for the operating surgeon to claim a certain fee from the patient, ostensibly for his own services alone, but really for the family physician as well, is dishonest. Such an act is economically dangerous; for he who repeatedly performs

a dishonorable act demoralizes both himself and his associates. The inevitable consequence of such acts will be, disregard of the patient's interest as the prime motive in the selection of the surgeon, and the substitution of the consideration as to which surgeon will pay the biggest commission to the attending physician.

Let us now appeal to first principles to solve the question constructively: 1. Every man is entitled to a reasonable recompense for services rendered. 2. That recompense is due from the person to whom the services are rendered. 3. The responsibility entailed on the physician in deciding on the necessity for an operation and in selecting a suitable operator is preeminently a service to the patient. So also, are the pains taken to furnish the operating surgeon with all those data that the physician's knowledge and prior observation have enabled him to glean with respect to the history of the case, and the personality and idiosyncracies, etc., of the patient. And so, also, is the assistance, if any, that may be rendered at the time of operation or subsequently. Therefore, for any or all of these things, the family physician is just as much entitled to compensation as for his previous attendance, and that in proportion to the care and responsibility involved. There can, of course, be no ethical objection to the surgeon including the physician's charges in his bill, provided the patient clearly understands that such a division is to take place. But in that case what advantage is gained? And why should the surgeon collect these fees for the physician any more than the fees for previous services. To argue that the only way to secure the physician his just dues is for the surgeon to include it in his own fee, overthrows all possible claim for honesty in the transaction. If this alleged objection on the part of the laity really exists, it is because they do not understand the position of the family physician or the amount of responsibility he assumes. The true solution of the difficulty is to make the laity understand the matter. We can hardly refrain, however, from the belief that the difficulty exists mainly in the minds of interested parties, who find in the practice of division of fees a means of illicit gain.

To sum up: First, if the patient knows of the transaction between the surgeon and the attending physician, there is no objection to such a division. If not, it is clearly a dishonest transaction. Second, the giving of commissions is dangerous under any circumstances, because of its inevitable tendency to bias the physician in his choice of a surgeon in favor of the one from whom the most substantial consideration is likely to be obtained. No other factor ought to enter into the physician's decision than the best interests of his patient. Third, the division of fees, however theoretically different, is practically identical in its effects with the giving of a commission.

The Public Service

Army Changes.

Memorandum of changes of stations and duties of medical officers, U. S. Army, week ending Oct. 12, 1907.

Snoddy, C. A., asst.-surgeon, left Fort Barrancas, Fla., for Jackson Barracks, La., for temporary duty.

Chamberlain, W. P., asst.-surgeon, granted an extension of 20 days to his leave of absence.

Borden, W. C., and Glennan, J. D., surgeons, and Ruffner, E. L., Billingslea, C. C., Halloran, P. S., and Krebs, L. L., asst.-surgeons, sailed for Philippine service on the *Sherman*, Oct. 5, from San Francisco.

Kulp, J. S., surgeon, granted leave of absence for two months.

Deshon, G. D., surgeon, ordered to proceed to the Army and Navy General Hospital, Hot Springs, Ark., and assume temporary command.

Wadhams, S. H., asst.-surgeon, relieved from duty at Fort Slocum, N. Y., in time to sail December 5, for duty at Fort Shafter, H. T.

Blanchard, R. M., asst.-surgeon, when relieved at Fort Shafter, H. T., ordered to San Francisco, for orders.

Clayton, J. B., asst.-surgeon, Fort Leavenworth, Kans.; Collins, C. C., asst.-surgeon, Fort Riley, Kans.; Rutherford, H. H., Army General Hospital, Presidio of San Francisco; Heard, G. P., asst.-surgeon, Fort Wingate, N. M.; Eastman, W. R., asst.-surgeon, Fort Lawton, Wash.; Rich, E. W., asst.-surgeon, Fort Ontario, N. Y.; Gapen, Nelson, asst.-surgeon, Columbus Barracks, Ohio; Connor, C. H., asst.-surgeon; Army General Hospital, Presidio of San Francisco; Smart, W. M., asst.-surgeon, Fort Caswell, N. C.; Hathaway, L. M., asst.-surgeon, Fort Thomas, Ky.; Jones, P. L., asst.-surgeon, Fort Preble, Me.; relieved from the posts designated and ordered to sail December 5 for Philippine service.

Harris, H. S. T., surgeon, relieved from duty in Philippines Division, in time to sail from Manila, Dec. 15, 1907, for San Francisco.

Schreiner, E. R., Baker, F. C., Reynolds, C. R., Dale, F. A., McAndrew, P. H., Grubbs, R. B., Shortlidge, E. D., DeLoffre, S. M., Juenemann, G. F., and Bruns, E. H., asst.-surgeons, relieved from duty in Philippines Division, in time to sail from Manila, Jan. 15, 1908, for San Francisco.

Kendall, W. P., surgeon, granted sick leave for one month.

Carter, W. F., surgeon, granted leave of absence for one month, twelve days.

Morse, A. W., asst.-surgeon, granted leave of absence for ten days.

Conzelmann, F. J., contract surgeon, relieved from duty at Fort Ethan Allen, Vt., and ordered to Fort Williams, Me., for duty.

Baker, C. L., contract surgeon, relieved from duty at Fort Totten, N. Y., and ordered to Fort Warren, Mass., for duty.

Enders, W. J., contract surgeon, relieved from duty at Fort Warren, Mass., and ordered to his home, Philadelphia, for annulment of contract.

Whitney, Walter, contract surgeon, left Fort McPherson, Ga., on practice march for 21 days.

Wells, F. M., contract surgeon, left Fort Robinson, Neb., for duty at Fort Mackenzie, Wyo.

Tignor, E. P., dental surgeon, left Fort Adams, R. I., for duty at Fort Greble, R. I.

Stallman, G. E., dental surgeon, ordered from Fort Sam Houston, Texas, to Fort Clark, Texas, for temporary duty.

Navy Changes.

Changes in the Medical Corps, U. S. Navy, for the week ended Oct. 12, 1907:

Hathaway, George S., asst.-surgeon, now sick in base hospital, Camp Columbia, Cuba, will proceed on transport to sail from Havana, Cuba, October 7, to Newport News, Va., and thence to the Naval Hospital, Norfolk Va., for observation and treatment.

Norton, O. D., surgeon, ordered to additional duty at the naval recruiting station, New York, N. Y.

Huntington, E. O., surgeon, detached from the naval recruiting station, New York, and ordered to the naval station, San Juan, P. R., sailing from New York, about October 12.

Robnette, A. H., asst.-surgeon, detached from the naval station, San Juan, P. R., and ordered to duty with the marine detachment, Havana, Cuba.

McGuire, L. W., Bacon, S., acting asst.-surgeons, ordered to additional duty at the Naval Hospital, Washington, D. C.

Elliott, M. S., surgeon, detached from the Naval Academy and ordered to the *Maine*.

Lawrence, H. F., Holeman, C. J., Bunker, C. W. O., asst.-surgeons, ordered to instruction at the Naval Medical School, Washington.

Public Health and Marine-Hospital Service.

List of changes of station and duties of commissioned and noncommissioned officers of the Public Health and Marine-Hospital Service for the seven days ended Oct. 9, 1907:

Stoner, G. W., surgeon, directed to proceed to Montreal, Quebec, and eastern Canadian stations for special temporary duty.

Williams, L. L., surgeon, detailed to represent the service at the Sixteenth Annual Meeting of the Association of Military Surgeons, Norfolk, Va., Oct. 15-18, 1907.

Stoner, J. B., surgeon, granted leave of absence for one month from Oct. 14, 1907.

Wertenbaker, C. P., surgeon, detailed to represent the service at the Sixteenth Annual Meeting of the Association of Military Surgeons, Norfolk, Va., Oct. 15-18, 1907.

Sprague, E. K., P. A. surgeon, granted leave of absence for 5 days from Oct. 15, 1907.

McMullen, John, P. A. surgeon, granted leave of absence for 3 days from Aug. 17, 1907, under Paragraph 191, Service Regulations.

Grubbs, S. B., P. A. surgeon, granted leave of absence for 5 days from Oct. 5, 1907.

Grubbs, S. B., P. A. surgeon, granted extension of leave of absence for 3 days from Oct. 10, 1907.

Parker, H. B., P. A. surgeon, granted leave of absence for 3 days from Aug. 11, 1907, under Paragraph 191, Service Regulations.

Lloyd, B. J., P. A. surgeon, leave of absence granted for 21 days from Aug. 5, 1907, revoked, and leave of absence granted for one month from Aug. 14, 1907.

Ward, W. K., P. A. surgeon, granted leave of absence for 1 day, Aug. 17, 1907, under Paragraph 191, Service Regulations.

Foster, A. D., asst.-surgeon, directed to report to chief medical officer, Ellis Island, N. Y., for duty.

Collins, G. L., asst.-surgeon, granted leave of absence for 1 day, Oct. 5, 1907.

Hallet, E. B., acting asst.-surgeon, granted leave of absence for 3 days from Oct. 10, 1907.

Kennard, K. S., acting asst.-surgeon, granted leave of absence for 1 day, Aug. 30, 1907, under Paragraph 210, Service Regulations.

Haulty, Jr., C. W., acting asst.-surgeon, granted leave of absence for 2 days from Oct., 15, 1907.

Ray, D. G., acting asst.-surgeon, granted leave of absence for 7 days from Oct. 4, 1907, under Paragraph 210, Service Regulations.

Ray, D. G., acting asst.-surgeon, granted leave of absence for 4 days, from Oct. 11, 1907.

Wetmore, W. O., acting asst.-surgeon, granted leave of absence for 1 day in August, 1907, under Paragraph 210, Service Regulations.

BOARD CONVENED.

A board of medical officers was convened to meet at Baltimore, Md., Oct. 10, 1907, for the physical examination of a cadet in the Revenue Cutter Service. Detail for the board: Surgeon L. L. Williams, chairman; P. A. Surgeon J. T. Burkhalter, recorder.

Health Reports.

The following cases of smallpox, yellow fever, cholera and plague have been reported to the Surgeon-General, Public Health and Marine-Hospital Service, during the week ended October 11, 1907:

SMALLPOX—UNITED STATES.

California: San Francisco, Sept. 15-21, 1 case.
Indiana: Anderson, Sept. 1-30, 2 cases; Elkhart, Sept. 22-28, 2 cases.
Iowa: Davenport, Sept. 1-30, 2 cases.
Michigan: Detroit, Sept. 22-28, 1 case; Saginaw, 1 case.
Missouri: St. Joseph, Sept. 20-26, 1 case.
Montana: Six Counties, Aug. 1-31, 7 cases.
Ohio: Cincinnati, Sept. 29-Oct. 4, 2 cases.
Oregon: Twelve Counties, April 1-July 31, 42 cases.
Nebraska: Omaha, Feb. 1-Sept. 30, 44 cases.
Texas: Temple, Sept. 22-28, 2 cases.

Washington: Lacrosse, Sept. 22-28, 1 case; Milwaukee, 4 cases; Spokane, 1 case.

SMALLPOX—FOREIGN.

Africa: Lourenço Marques, July 1-31, 5 deaths; Sierra Leone, Aug. 1-31, 2 cases, 1 death.
Austria: Galicia, Aug. 1-31, 4 cases; Monrovia, Aug. 18-31, 1 case; Vienna, Sept. 1-7, 35 cases, 6 deaths.
Brazil: Para, Sept. 14-21, 5 cases, 6 deaths.
Canada: Halifax, Sept. 22-28, 1 case.
China: Hongkong, Aug. 18-24, 1 case, 1 death; Shanghai, Aug. 19-25, 1 case, 19 deaths (cases foreign, deaths native).
Colombia: Cartagena, Sept. 11-17, present.
Ecuador: Guayaquil, Sept. 1-7, 2 deaths.
Egypt: Cairo, Aug. 13-19, 1 death.
India: Bombay, Aug. 27-Sept. 3, 1 death; Madras, Aug. 24-30, 3 deaths.
France: Paris, Sept. 8-24, 5 cases, 1 death; Toulon, Aug. 1-31, 2 cases.
Italy: General, Sept. 6-19, 38 cases.
Java: Batavia, Aug. 18-24, 3 cases.
Madeira: Funchal, Sept. 9-15, 3 cases.
Malta: Valetta, Sept. 8-14, 2 cases.
Mexico: Aguas Calientes, Sept. 15-28, 2 deaths.
Persia: Mash-Had, July 1-31, present; Rasht, present; Shiraz, present, Tabreez, present.
Peru: Lima, Sept. 7, present.
Portugal: Lisbon, Sept. 7-14, 3 cases.
Russia: Libau, Sept. 1-7, 1 case; Odessa, 1 case; Riga, Sept. 8-14, 1 case; Warsaw, Aug. 4-17, 7 deaths.
Spain: Barcelona, Sept. 11-20, 3 deaths; Denia, Sept. 15-21, 2 cases; Malaga, Aug. 1-31, 7 deaths; Valencia, Sept. 8-15, 22 cases, 1 death.
Turkey in Europe: Constantinople, Sept. 9-15, 3 deaths.
Turkey in Asia: Bagdad, Aug. 11-24, present.

CHOLERA.

China: Shanghai, Aug. 19-25, 3 cases, 156 deaths (cases among foreigners, deaths among natives).
India: Bombay, Aug. 28-Sept. 3, 53 deaths; Calcutta, Aug. 18-24, 25 deaths; Madras, Aug. 24-30, 20 deaths; Moulmine, July 7-27, 42 cases; Rangoon, Aug. 18-24, 5 deaths.
Japan: Fukuoka Ken, to Sept. 9, 83 cases; Moji, 408 cases and 114 deaths; Hiroshima Ken, Sept. 1-9, 2 cases; Hyrogo Ken, Kobé, to Sept. 9, 5 cases, 2 deaths; Oita Ken, Sept. 1-9, 4 cases; Okugori Ken, 27 cases; Yamaguchi Ken, 92 cases; Shimonoseki, to Sept. 4, 30 cases.
Korea: Seoul, Sept. 26, present.
Straits Settlements: Singapore, Aug. 4-17, 92 deaths.

YELLOW FEVER.

Brazil: Monaos, Sept. 1-14, 3 deaths; Para, Sept. 15-21, 6 cases, 3 deaths.
Costa Rica: San José, Sept. 15-21, 1 case (imported).
Cuba: Cienfuegos, Oct. 3-4, 2 cases, total from Aug. 3-Oct. 4, 64 cases, 16 deaths; Habana, Oct. 7, 1 case; Palos, Oct. 3, 2 cases, 1 death.
Ecuador: Guayaquil, Sept. 8-14, 1 death.

PLAGUE—UNITED STATES.

California: San Francisco, Oct. 1-8, 9 cases, 6 deaths, total from Aug. 12-Oct. 8, 58 cases and 33 deaths.

PLAGUE—FOREIGN.

China: Hongkong, Aug. 11-17, 10 cases, 10 deaths.
French Indo-China: Upper Cambodia, Pnompenah, July 26, present.
India: General, Aug. 18-24, 3,837 cases, 2,778 deaths; Bombay, Aug. 26-Sept. 3, 32 deaths; Calcutta, Aug. 18-24, 7 deaths; Rangoon, Aug. 18-24, 7 deaths.
Manchuria: Kaiping, Aug. 7-21, 30 cases, 30 deaths.
Peru: Callao, Aug. 29-Sept. 4, 1 death; Lima, Aug. 28-Sept. 4, 3 cases, 2 deaths; Mollendo, 1 case, 1 death; San Pedro, 5 cases, 4 deaths.
Turkey in Asia: Mitylene, Sept. 3-11, 1 case.
Zanzibar: June 10-July 24, 9 cases, 9 deaths.

Marriages

NORRIS WISTER VAUX, M.D., to Miss Honora Dixon, both of Philadelphia, October 9.

ZERA M. BEAMAN, M.D., Urbana, Ind., to Miss Pauline Speicher, September 21.

JOHN J. CONNOLLY, M.D., to Miss Josie C. Sullivan, both of Louisville, Ky., October 1.

EDWARD L. DUER, M.D., Philadelphia, to Miss Louise Corbitt of Odessa, Del., October 3.

MARTIN CROOK, M.D., to Miss Susie Lee McElroy, both of Columbus, Ga., October 15.

FRANK J. MCGUIRE, M.D., to Miss Katharine Moore, both of New Haven, Conn., October 2.

JOHN HENRY BUFFORD, M.D., Boston, to Miss Edith M. Cobb of Belmont, Mass., recently.

EDGAR D. HEATON, M.D., to Miss Frances Hillman, both of Centerville, Iowa, September 29.

ELLICE MCDONALD, M.L., New York City, to Miss Anne Heebner of Philadelphia, October 15.

SETH MINOT MILLIKEN, M.D., New York City, to Miss Alida K. Leese of Plainfield, N. J., October 5.

ROBERT NELSON LANE, M.D., Danville, Ill., to Miss Mabel Lee Hanna of Bardolph, Ill., October 16.

WALTER HERBERT FLANDERS, M.D., to Miss Julia Thorndike Dennis, both of Melrose, Mass., recently.

CLARENCE SIBLEY PETTY, M.D., Guthrie, Okla., to Miss Florence Sturgus, Huron, Ohio, recently.

CHARLES TEED POLLARD, M.D., to Miss Juliet Shrewsbury Craik, both of Montgomery, Ala., October 1.

WILLIAM P. WATSON, M.D., Dyersburg, Tenn., to Miss Kettie B. Bull of Chicago, at Fulton, Ky., September 29.

CARL J. F. ROCHOW, M.D., Lincoln, Ill., to Miss Margit Jansen of Frederikshald, Norway, at Chicago, September 28.

Deaths

Charles William Burton, M.D. College of Physicians and Surgeons in the City of New York, 1873; of North Adams, Mass., a member of the Massachusetts and Berkshire County medical societies; formerly superintendent of schools and president, vice-president and councilor of the Berkshire District Medical Society; for many years school committeeman, library trustee and chairman of the library board, died at the House of Mercy, Pittsfield, Mass., October 5, from uremia, a month after an operation for kidney disease.

William Charles Todd, M.D. Jefferson Medical College, Philadelphia, 1855; major-surgeon of the Sixty-sixth Pennsylvania Volunteer Infantry and Fifth Pennsylvania Volunteer Cavalry during the Civil War; one of the earliest members of the medical staff of St. Timothy's Hospital, Philadelphia, surgeon of the Thirteenth police district for many years, died at his home in Roxborough, Philadelphia, October 3, from senile debility, aged 83.

Martin W. Harper, M.D. Louisville (Ky.) Medical College, 1873; a member of the Medical Society of the State of North Carolina; formerly president of the Harnett County Medical Society; a Confederate veteran; member of the Atlantic Coast Line Railroad Surgeons' Association and local surgeon of the system at Dunn, N. C.; chairman of the Dunn Good Roads District, died at his home in that place, August 16, from diabetes mellitus, aged 62.

Prosper Harvey Ellsworth, M.D. Rush Medical College, Chicago, 1861; a member of the American Medical Association; one of the most prominent practitioners of Hot Springs, Ark.; major-surgeon of the One Hundred and Sixth Illinois Volunteer Infantry during the Civil War; president of the medical board of pension examiners, died at his home in Hot Springs, from disease of the stomach, September 30, after several months' illness, aged 69.

Milton Le Roy Wenger, M.D. Bellevue Hospital Medical College, New York City, 1874; a member of the American Medical Association; and one of the most prominent practitioners of Berks County, Pa.; formerly surgeon to St. Joseph's Hospital, Reading, died at his home in that city, from progressive spinal paralysis, October 1, after an illness of eight years, aged 53.

Winfield Scott Laton, M.D. Long Island College Hospital, Brooklyn, 1877; a member of the American Medical Association, the Minnesota Academy of Medicine, a specialist in diseases of the nose and throat, and a member of the staff of Asbury Hospital, Minneapolis; died suddenly in the Judd House in that city, October 6, from cerebral hemorrhage, aged 52.

James Estep Whitsett, M.D. Cleveland Medical College, Medical Department of Western Reserve College; a member of the Brook County (W. Va.) Medical Society, and mayor of Bethany, a trustee of Bethany College for many years; died in that place August 17, from uremia, five days after an operation for prostatitis, aged 80.

Edward Jay Morgan, M.D. New York Homeopathic Medical College and Hospital, New York City, 1878; for eleven years a member of the Ithaca (N. Y.) Board of Health; twice coroner of Tompkins County, N. Y.; died at his home in Ithaca, October 3, from diabetes, after an illness of two weeks, aged 52.

Alfred Henry Gould, M.D. Medical School of Harvard University, Boston, 1900; of Boston; a member of the American Medical Association and after his graduation an interne in the Massachusetts General Hospital; died in St Margaret's Hospital, Boston, October 2, after a brief illness, aged 34.

Moses H. Hayes, M.D. Miami Medical College, Cincinnati, 1856; a well-known practitioner of Wayne County, Ind.; surgeon of the Sixty-ninth Ohio Volunteer Infantry during the Civil War; died at his home in Richmond, October 6, from senile debility, after an illness of four weeks, aged 82.

James McManus, M.D. Long Island College Hospital, Brooklyn, N. Y., 1881; a well-known practitioner of South Brooklyn, for a number of years inspector of the local board of health, died at his home, October 2, from fatty degeneration of the heart, after an illness of two months, aged 49.

Harry H. Bordner, M.D. University of Michigan, Department of Medicine and Surgery, Ann Arbor, 1874; a member of the Medical Society of the State of Pennsylvania and Snyder County Medical Society, died suddenly from heart disease, at his home in Shamokin Dam, Pa., September 29, aged 66.

George K. Noyes, M.D. Baltimore University School of Medicine, 1898; a member of the American Medical Association, and a prominent young practitioner of Milwaukee, died at his home in that city, October 2, from pneumonia, following typhoid fever, after an illness of five weeks, aged 35.

William Waterhouse, M.D. New York University Medical College, New York City, 1842; a member of the New Hampshire State and Strafford County medical societies, and in active practice in Barrington, N. H., until 1904; died at his home in Barrington, September 13, aged 91.

Richard S. Slevin, M.D. Rush Medical College, Chicago, 1902; formerly a practitioner of Peoria, Ill., threw himself from a window in the fifth floor of the City Hospital, St. Louis, October 4, while mentally unbalanced from drug addiction, and was instantly killed, aged 30.

Jacob S. Bender, M.D. Hahnemann Medical College and Hospital, Philadelphia, 1862; assistant surgeon of the Twenty-ninth Pennsylvania Volunteer Infantry during the Civil War; died at his home in Carlisle, Pa., from heart disease, October 6, after an illness of eight days, aged 77.

Stonewall W. Miller, M.D. Missouri Medical College, St. Louis, 1897; of Norborne, Mo.; a member of the Missouri State Medical Association and Carroll County Medical Society; died in a hospital in Kansas City, September 29, a week after an operation on the intestines, aged 45.

Richard N. Lane, M.D. University of Louisville (Ky.) Medical Department, 1848; of Eagle Pass, Texas; a member of the State Medical Association of Texas and Maverick County Medical Society; died at the home of his daughter in San Antonio, September 30, aged 79.

Frank W. Wilson, M.D. Medico-Chirurgical College of Philadelphia, 1904; chief clinical assistant in the out-patient department of the Medico-Chirurgical Hospital, died at his home in Germantown, Philadelphia, October 5, from chronic interstitial nephritis, aged 49.

Melchijah Spragins, M.D. University of Maryland School of Medicine, Baltimore, 1899; a member of the American Medical Association, and for two years connected with the city health department of Baltimore; died at St. Agnes' Hospital in that city, October 5.

Clarence E. Barber, M.D. Wisconsin College of Physicians and Surgeons, Milwaukee, 1900; formerly a practitioner of Warrens, Wis., who had been ill with tuberculosis for three years, died from pulmonary hemorrhage, in Salt Lake City, Utah, October 1, aged 39.

William Strong Bruner, M.D. University of Pennsylvania, Department of Medicine, Philadelphia, 1875; formerly of Altoona, Pa., and sometime physician of Rio Blanco County, Colo., was found dead in his home in Meeker, September 28, from heart disease, aged 56.

Harriet A. Leonard, M.D. Iowa Medical College, Keokuk; for more than 40 years a practitioner of Manitou, Colo., died in Colorado Springs, September 7, from nervous collapse, two months after a fall in which she fractured her right thigh, aged 71.

Earl Stewart, M.D. Manitoba Medical College, 1906; a member of the Manitoba Medical Society; resident physician in the Winnipeg General Hospital, died in that institution, September 6, from typhoid fever, after an illness of sixteen days, aged 24.

George Beveridge, M.D. College of Physicians and Surgeons, Chicago, 1904; a member of the Iowa State and Grundy County medical societies; died at his home in Reinbeck, October 3, after an illness of nearly a year, from heart disease, aged 32.

William W. B. James, M.D. University of Pennsylvania, Department of Medicine, Philadelphia, 1845; for many years a practitioner of Sumter, S. C., died at the home of his niece in Columbia, S. C., October 2, from senile debility, aged 85.

Edward R. Jebb, M.D. Medical Department of Victoria College (Rolph's School), Toronto, 1871; fell down a flight of stairs at his home in Battle Creek, Mich., October 3, breaking his neck and causing almost instantaneous death, aged 56.

J. Henry Stiger, M.D. New York University, New York City, 1857; of Mendham, N. J., a surgeon during the Civil War; died at the home of his brother-in-law, in Schooley's Mountain, October 1, from cerebral hemorrhage, aged 73.

William M. Givens, M.D. St. Louis (Mo.) Medical College 1857; a pioneer physician of Gallatin, Mo., and treasurer of Daviess County for two terms; died at his home in that city, September 30, after a prolonged illness, aged 79.

Allison H. Coulston, M.D. Hahnemann Medical College and Hospital, Philadelphia, 1902; of Philadelphia, died in the Hahnemann Hospital in that city, October 5, four days after an operation on the intestines, aged 30.

James D. McCauley, M.D. University of Pennsylvania, Department of Medicine, Philadelphia, 1859; died at his home in Glenmoore, N. J., September 29, from peritonitis, after an illness of ten days, aged 77.

John Price McCord, M.D. Jefferson Medical College, Philadelphia, 1871; a veteran of the Civil War, died at his home in Pittsburg, October 6, from cerebral hemorrhage, after an illness of nine weeks, aged 67.

Sigmund Lesser, M.D. University of Greifswald, Germany, 1872; one of the oldest practitioners of Davenport, Iowa; died at his home in that city, October 8, from pneumonia, after a short illness, aged 60.

Winfield Scott Pickens, M.D. Rush Medical College, Chicago, 187—; of Indianapolis, died at the Deaconess Hospital, in that city, September 6, from dysentery, after an illness of two or three weeks, aged 59.

Silas Nelson Gorsuch, M.D. University of Michigan, Department of Medicine and Surgery, Ann Arbor, 1880; died suddenly from cerebral hemorrhage, at his home in Gambier, Md., October 3, aged 62.

Edwin West, M.D. New York University, New York City, 1849; formerly of Greater New York, died in a hotel in Los Angeles, Cal., October 2, from cancer, after an illness of two years, aged 81.

Alexander Johnstone Stevenson, M.D. Trinity Medical College, Toronto, 1887; of Ridgetown, Ont., died suddenly at the home of his sister in Kingsville, September 29, from heart disease, aged 45.

Herbert F. Darrin (License, Kan.) 1901; died in his room in Wichita, Kan., from the effects of a gunshot wound, self-inflicted, while temporarily deranged from alcoholism, aged 44.

Horatio Gates Hawkins (Certificate, Mass.,) 1894; of Springfield, Mass., jumped into the Connecticut River, October 6, while suffering from despondency, and was drowned, aged 55.

Laban D. Plummer, M.D. Medical College of Ohio, Medical Department of University of Cincinnati, 1882; of Foster, Ky., died October 4, at the home of his sister in Kansas City, Mo.

Hugh I. Roberts, M.D., Pulte Medical College, Cincinnati, 1888; died at his home in Wellsburg, W. Va., October 3, from nephritis, after an illness of more than a year, aged 56.

Edwin Sewell Kimpton, M.D. Medical School of Harvard University, Boston, 1887; died suddenly at his home in Charlestown, Boston, October 1, from nephritis, aged 50.

William H. Berth, M.D. Baltimore University School of Medicine, 1904; died at his home in Providence, R. I., October 3, from pneumonia, after a short illness, aged 31.

Robert S. B. O'Brien, M.D. McGill University Medical Faculty, Montreal, 1873; a well-known citizen and practitioner of Nanaimo, B. C., died recently in that city.

Jacob C. W. Cryder, M.D. Medical College of Ohio, Medical Department of the University of Cincinnati, 1865; died at his home in Joplin, Mo., September 23, aged 59.

B. L. Rex, M.D. College of Physicians and Surgeons, Baltimore, 1890; died suddenly at his home in Hillsboro, Va., from heart disease, September 26, aged 55.

Henry Lilienthal, M.D. Albany (N. Y.) Medical College, 1878; died at his home in Albany, N. Y., September 29, after an illness of about a year, aged 53.

John M. Prilay, M.D. Hahnemann Medical College, Philadelphia, 1885; died at his home in Bangor, Maine, October 3, after an illness of two years, aged 46.

Elijah J. Copeland, M.D. Cincinnati Physio-Medical College, 1881; a veteran of the Civil War, died at his home in Stewart, Ohio, September 20, aged 70.

Peter Pickard, M.D. University of Buffalo (N. Y.) Medical Department, 1859; died suddenly at his home in Mount Vernon, Ohio, October 4, aged 74.

William Carroll Faught, M.D. Kentucky School of Medicine, Louisville, 1894; died at his home in Farmersburg, Ind., October 2, aged 38.

William E. Emery, M.D. Bellevue Hospital Medical College, New York City, 1885; died at his home in Surry, Maine, September 19.

Society Proceedings

COMING MEETINGS.

Medical Society of Virginia, Chase City, Nov. 12-15.
Southern Surgical and Gyn. Assn., New Orleans, Dec. 17-19.
American Association of Anatomists, Chicago, Dec. 26-27.
Western Surgical and Gyn. Assn., St. Louis, Mo., Dec. 30-31.

AMERICAN ROENTGEN RAY SOCIETY.

Eighth Annual Meeting, held in Cincinnati, Ohio, Oct. 2-4, 1907.

The President, Dr. P. M. HICKEY, Detroit, in the Chair.

Officers Elected.

The following were elected to serve for the ensuing year: President, Dr. E. W. Caldwell, New York City; vice-presidents, Drs. Kennon Dunham, Cincinnati; A. L. Gray, Richmond, Va.; Lewis G. Cole, New York City; M. K. Kassabian, Philadelphia, and J. W. McMasters, Toronto, Can.; secretary, Dr. George C. Johnston, Pittsburg, Pa.; treasurer, Dr. Chas. H. Bowen, Columbus, Ohio; executive committee (for three years), Dr. Percy Brown, Boston, Mass.

The next annual meeting will be held in New York City, at such time as the executive committee may designate.

Developers.

DR. HENRY HULST, Grand Rapids, Mich., opened a general discussion on the subject of developers, in which it was shown that almost any developer will do good work, provided the user has made himself thoroughly familiar with it. He must know what the developer will do under certain circumstances, with certain negatives taken under certain conditions and in which it is intended to bring out certain things. It is for this reason that so many excellent developers are in use, but rarely is the same formula used by two men. Each has modified it to meet his demands. Dr. Hulst uses a hydrochinon developer made as follows: To one quart of water he adds potassium carbonate until it reads 1,060 by hydrometer. Then he adds six drams of sodium sulphite; one-half of an ounce of hydrochinon, and two ounces of a 10 per cent. solution of potassium bromid, in water. In a few minutes the solution is ready for use. The high lights are expected to appear in from 30 to 40 seconds. If they appear earlier or later, more of the potassium bromid solution is added, according as it is needed. The developer is said to give not only good contrast but also good detail. The use of the hydrometer in determining the correctness of the mixture was emphasized.

Roentgen Ray in Cancer.

DR. ENNION G. WILLIAMS, Richmond, Va., emphasized the necessity of differentiating cancer cases clinically, if the Roentgen ray is to be gauged properly. Williams divides his cases into six classes, according to the extent of involvement. The first class includes lesions on the skin surface advanced beyond a keratosis. The second class includes more advanced cases of the first class, which have invaded the subcutaneous tissues. The third class includes extensive, recurrent and metastatic growths in the deep structures. The fourth class includes carcinomas on the mucous membranes. The fifth class includes primary carcinomas of the breast, and the sixth class includes recurrent carcinomas of the breast. Of 53 unselected cases of the first class, 52 patients were healed, an attack of pneumonia proving fatal in the one unhealed case. In four of the cases there was a recurrence, which was healed with the ray, and the patients have remained healed, one patient being well after four and a half years. Of 17 cases in the second class, in all of which a primary operation had been done, four patients were improved, two remained unimproved, five were healed temporarily, but had a recurrence, and six remained well. Of nine cases in the third class, five patients remained unimproved, two were improved temporarily and one patient had a recurrence. In cases of classes four and five, the author advises excision first. Thirteen cases were reported in these two classes. Of fifteen patients in class six, three were improved, seven showed great improvement in reduction of size of growth and relief from pain; in five the tumor disappeared, but recurred in three. The remaining two patients are well after two and a half years and four months respectively. The author states that precancerous and cancerous conditions can be eradicated completely in their early stages by means of the Roentgen ray, and remain so without leaving a scar and without danger to the individual.

DISCUSSION.

DR. CHAS. L. LEONARD, Philadelphia, stated that the scirrhus type of carcinoma of the breast is particularly amenable to Roentgen ray treatment, but advised that the treatment be instituted before the patient is operated on, because he has found that operation stimulates these tumors to growth and they soon become very malignant in character. In the case of more malignant tumors, he advised early operation, followed by the use of the ray.

DR. GEO. E. PFAHLER, Philadelphia, stated that, while superficial cancers are amenable to Roentgen ray treatment, the type involving the mucous membranes should first be subjected to excision before the ray is used. In primary carcinomas of the breast excision should be followed by Roentgenization.

DR. F. H. BAETJER, Baltimore, Md., did not think that cases of epithelioma in which there is any danger of metastasis should be treated with the Roentgen ray alone or by excision alone. He referred particularly to epitheliomas of the lower lip.

DR. GEO C. JOHNSTON, Pittsburg, failed to see how exposure of a cancer of the lower lip could be expected to effect a cure when there are present metastases as far down as the mediastinum, as in one case he cited. He also condemned the usual surgical operation in which only the local lesion is excised without any heed being given to carcinomatous glands in the neck and lower down.

(To be continued.)

ILLINOIS STATE CONFERENCE OF CHARITIES.

Twelfth Annual Convention, held at Jacksonville, Ill., Oct. 9-11, 1907.

Education of Profession and Public on Insanity.

At the opening session of the Illinois State Conference of Charities, Dr. Frank P. Norbury delivered the president's address on "Education of Physicians and the Public Regarding Insanity." He said that the solution of the problems regarding insanity, which were largely educational, should be reached through two avenues: First, improved clinical instruction of the medical profession; and, second, popularization of our present knowledge of insanity. Education is a public safeguard and the medical profession should provide through its channels, all possible knowledge to fortify against the inroads of mental disease. Considering the results attained in other fields of preventive medicine he believes that the people stand ready and willing to have presented to them in practical form the knowledge of insanity which exists to-day. Moreover, they will cooperate in solving the problems with this knowledge, just as they have in solving the problems of tuberculosis, yellow fever, malaria and smallpox. The trouble in the past, and even now, in our schools in the education of physicians regarding insanity, has been and is the want of clinical opportunities in the medical schools, and save for a few of the larger schools situated in cities where access could be had to detention hos-

pitals, it was, and really is, now the rarest thing for a clinical lecture to be delivered on a mental case. Consequently, the average graduate of the past never came in contact with a case of insanity, knew little of even the principles of insanity, for usually but a few lectures were delivered and they, in their didactic dryness, seldom appealed to the real wants of the students. In a great measure, this criticism still exists, for marks in mental diseases in many of the schools are not among the necessary credits for graduation.

Fortunately, there is a dawn of a better day for clinical psychiatry. It is a pleasure, a real, intellectual treat, to see now and then, in the medical schools in smaller medical centers, like Indianapolis and Ann Arbor, a roster of clinical lectures on mental diseases held in the hospitals owned by the state, equipped especially for clinical instruction by the state, and contributed by the state as their part in the endeavor to disseminate knowledge of mental diseases among medical men. This is a wonderful advancement, a true triumph for scientific medicine and second in importance for the public's welfare, to the establishment by the state, of hospitals for the housing of the insane.

Illinois, alas! is just on the edge of the clinical period; it would have stepped in it this past year but for the fact that we as a state, as reflected in the minds of our legislative body, are still in the nursing-bottle stage of this great educational problem. Illinois has, however, in so far as improving the service in state hospitals and in insuring a more stable and developed medical service are concerned, made great advancement in the past two years; first, in inaugurating civil service for the medical staff, which will doubtless secure efficiency after it gets to working in normal channels. Again, it has made provision for the educational advancement of this permanent medical staff by establishing the Psychopathic Institute at Kankakee, where facilities for thorough clinical instruction in all that pertains to mental diseases will be undertaken. This, too, will require time to develop in its full potential possibilities for genuine, wholesome work. From this much-desired nucleus in the state is to go out the great work of education which will directly affect the problems encountered in hospital practice, and indirectly, the whole medical profession, for, with thoroughly trained clinicians in the state service, they will and should, reflect their knowledge on the mass of the profession through the channels of the medical societies, the current medical literature, and through popular lectures before local lay societies, and through the magazines and other popular current literature.

On the education of the masses depends not only the prevention of diseases, which is a crowning glory of the past and of this century in medicine, but it means money necessary to provide psychopathic hospitals and to educate physicians to the highest possible attainments.

Social Aspects of Medical Work.

DR. RICHARD C. CABOT, Boston, said that doctors must study social work and diagnostic psychology, educational psychology, psychotherapeutics and race psychology. Educators and clergymen must study all of these things and also physiology and social work. Social workers being, of course, acquainted with social work, need to study all of these other items, including, of course, physiology. The evidence that these things are being done is shown in the reorganization of hospitals and medical schools, the medical tone given to modern social work, and the schools for hygiene and for nurses. Out of this increasingly close interdependence there is evolving a public medicine which is educational, preventive and sociologic. The spread of municipal, state and national medicine is shown in boards of health, tuberculosis work, health inspectors in factories, school nurses, teaching of hygiene in schools, free public lectures on medicine, efficient public hospitals and dispensaries, district nurses, state and municipal laboratories, the safeguarding of water and milk supplies, the playground, public bath movement, free vaccine, diphtheria antitoxin, quinin and thymol (Porto Rico); and legislation against "patent medicines," dirty bakeries and packing houses.

All these things tend steadily to restrict the sphere of the private doctor. They are diminishing the number of medical students in Europe and America. This is well, because people are not pauperized by efficient medical help though given free, because the temptations of the impecunious private doctor are almost too great to be borne, as shown in Bernard Shaw's "Doctor's Dilemma," and because it costs too much to be sick nowadays. The state is rapidly taking over medical work, as it has taken over educational work, and as it will take over medical work more and more.

AMERICAN PUBLIC HEALTH ASSOCIATION.

Thirty-fifth Annual Meeting, held at Atlantic City, N. J., Sept. 30-Oct. 4, 1907.

The President, DR. DOMINGO ORVANANOS, Mexico City, in the Chair.

The general association met in the West Solarium of the Marlborough-Blenheim Hotel. One hundred and seven applicants were elected to membership from different sections of the United States, Canada and Mexico.

The laboratory section held its meeting September 30, under the chairmanship of Dr. Hibbert W. Hill of Minneapolis, Minn.

Two new sections were organized at this meeting; one, a section composed of municipal health officers, the other, a section on vital statistics.

A committee, appointed to invite the Conference of State and Provincial Boards of Health of North America to affiliate with the association, made its report, but this conference did not deem it prudent to affiliate with the association, for the reason that it had separate and distinct functions.

The Outlook for a General System of Registration of Vital Statistics.

DR. CRESSY L. WILBUR, Chief Statistician, Bureau of Census, Washington, D. C., presented a map showing the extent of the registration area in 1895 and 1907. In 1895 there were only 8 registration states for deaths. In 1907 there were 15 registration states for deaths. There were no registration states for births in 1895, and even in 1907 the registration area for births was represented by only a few interrogation marks on such states as Massachusetts, Pennsylvania and Michigan, indicating their possible addition within a short time, owing to the operation or effective enforcement of recent legislation. Study was made of the conditions of population, as density, literacy, etc., affecting the extension of the registration area, and of the favorable and unfavorable circumstances relative to the adoption of effective laws. It is estimated that in the light of experience of slow progress in the past, the United States could hardly expect to have a satisfactory system of registration of vital statistics, including both births and deaths and covering the entire country, much before the middle of the present century, at which time, if all the present agencies now effectively cooperating shall accomplish this result, the nation will have reached a place of advancement in this respect that would be equal to that occupied at the present day by Japan. A standard certificate of death has been prepared by the association and the Bureau of Census, and is extensively employed, with resulting advantage in causing uniformity of the data collected; yet many states and cities have continued to employ their old forms, whose variety is multitudinous, and offices that have adopted the standard blank have not hesitated to change it materially, so that the information obtained is frequently entirely different from what it purports to be when returned to the Bureau of Census on the actual standard blank. The amazing thing about the way in which many deaths from tuberculosis are reported, Dr. Wilbur said, as abscess of the chest, brain fever, marasmus, etc., is the general indifference of registration officials to the necessity of securing accurate statements of causes of death. Finally, he said, if the people of the United States want a thorough system of registration of vital statistics they can get it. It will not be necessary to wait fifty or sixty years for the slow adoption and enforcement of ade-

quate laws. The process can be hastened, and without departing from the constitutional requirements that the primary control of registration should be by the states and not by the Federal Government. If Congress, if the people of the United States are really interested in this matter, and are determined that this thing shall be done, the states will readily be brought into line.

DISCUSSION.

DR. JOHN N. HURTY, Indianapolis, emphasized the importance of accurate registration of vital statistics. The authorities have been trying to collect accurate statistics of deaths in Indiana, and now they are getting over 95 per cent. of deaths recorded, while the United States Census Bureau requires but 90 per cent. The medical profession, as represented by the Indiana State Medical Society, has done everything it can, while individually the members of the medical profession at large have not come forward and assisted in this work. They have, however, been compelled to do so and give the records of death. Indiana is now prepared to give a complete registration of births. The law is behind the Indiana State Board of Health, imposing a severe penalty for not recording births and deaths. If a dead body is buried in Indiana without a permit, and that permit is not issued until a certificate of death is returned complete, the coroner disinters the body, and requires the necessary data on the death certificate. There is a special police officer whose income is dependent on fees, and he is continually on the watch for instances of illegal burial. According to the law, births shall be recorded within twenty days after their occurrence. The legislature has been asked to make it immediate. The penalty of not reporting a death is, for the first offense, a fine of from $10 to $50; for the second, a fine of from $50 to $100, and for the third, $100. A clause in the latter bill was stricken out at the last minute when the bill was on its final passage, namely, that on a third conviction of the violation of this law for failure to report deaths or births, a physician shall lose his license to practice in that state. This clause was stricken out by a lawyer, and not by a physician, as the clause was approved by the Indiana State Medical Society.

DR. QUITMAN KOHNKE, Covington, La., suggested to the officials of the Bureau of Census that a uniform system of laws be submitted to each state for adoption. Law is the main reason why mortality statistics are not the same in every state. He hopes that the Bureau of Census will assist the whole country in getting a uniform system of laws to make the statistics of one state comparable to those of another.

DR. HENRY MITCHELL, Asbury Park, N. J., said that in an experience of about fourteen years in New Jersey it has been found that it is not a question of law, but one of enforcement of the law.

DR. WILBUR, in closing the discussion, said that the association has been cooperating with the Bureau of Census for five years, first, in laying down principles on which a successful registration law can be constructed, and, second, in drafting such laws for adoption in various states. If registrars depend on the patriotic motives of physicians or midwives or anybody else to comply with the law, in regard to recording births and deaths, if they are not put in jail when they violate it, registration will be worthless. In Germany or France 100 per cent. of births and deaths are reported.

Sources of Error in the Laboratory Diagnosis of Diphtheria.

DR. HIBBERT W. HILL, Minneapolis, submitted what is actual proof and what must be assumed to make a bacteriologic diagnosis of diphtheria logical and a practical success. First, the finding of diphtheria bacilli in a culture taken by itself proves nothing except their presence in the culture. Granting that the culture is properly taken, the finding of bacilli proves their presence in the throat, etc., from which the culture was taken, nothing more. Second, the presence of diphtheria bacilli in the throat plus appropriate symptoms justifies the assumption that the patient has the disease, the evidence being that from 98 to 99 per cent. of all patients showing the condition have the disease. Third, the presence of diphtheria bacilli in the throat, without symptoms, requires further data as to exposure. If a clear history of the absence of exposure can be obtained, it is legitimate to assume that the diphtheria bacilli found are likely to be non-virulent, the evidence being that 80 per cent. of such cases are not virulent. If exposure is established, a legitimate assumption is that diphtheria bacilli are virulent, and, therefore, when present, may infect others who will come down with the disease in a short time, the evidence being that the infection obtained from a clinical case is almost invariable. Fourth, failure to find diphtheria bacilli in a culture is about 90 per cent. conclusive of their absence in the throat. If a second culture be taken, and also proves negative, the two consecutive negatives taken together afford about 90 per cent. conclusive evidence. If two or three or four negatives are obtained, the absence of diphtheria bacilli is established with direct finality.

DISCUSSION.

DR. JOHN N. HURTY, Indianapolis, asked whether or not it is possible that a non-virulent diphtheria bacillus in one throat may become virulent in another. For instance, the health officer may visit a school and find two or three cases of virulent diphtheria, and yet if cultures are taken from the throat of every child in the room, diphtheria bacilli will be found, but as these are making a good defense against the disease, it is assumed that the bacilli are non-virulent. In Indiana, they have been acting on the assumption that the bacilli are virulent when found in these children's throats. When found, action is taken immediately. If one goes into a family to see a case of diphtheria, it is clinical diphtheria or laboratory diphtheria, and whichever it is, antitoxin should be used on all children in the household, giving them immunizing doses. He has used antitoxin liberally whenever diphtheria exists, and feels that in several instances he has stopped epidemics of the disease in Indiana. For instance, in one county he rode 27 miles, and in that time visited sixteen families, finding six cases of diphtheria. He immunized every child in each family, and this was the end of the diphtheria, in that there was no further spread of the disease. They do not inquire as to whether the children are infected with virulent or non-virulent diphtheria bacilli, and he believes that this is a good practice to recommend.

DR. WILLIAM C. WOODWARD, Washington, D. C., called attention to the distinction that exists between medical diphtheria and legal diphtheria. A year or two ago the question arose in the District of Columbia as to the exact status of a child in whose throat or nose diphtheria has been found, but who shows no clinical symptoms of the disease, and a wise corporation counsel decided that if diphtheria bacilli are found in a man's or child's nose or throat that that man or child has diphtheria. The question of the presence or the absence of the clinical symptoms counts for nothing in law, and that a man or child is a danger to the community who has diphtheria, and should be treated as such. Whether or not that is going to hold in the case of diphtheria patients he does not know.

DR. B. FRANKLIN ROYER, Philadelphia, is much impressed with the statement of Dr. Woodward as to what constitutes legal diphtheria, and yet the speaker questions if in a court of law one can prove legal diphtheria by finding the bacillus in accordance with bacteriologic methods in the throat or nose cultures. These methods at present are snap-shot, and are not satisfactory to clinicians nor to bacteriologists. The great trouble is that so many organisms are met with which closely resemble the diphtheria bacillus, it is with great difficulty it can be positively excluded. Those who deal largely with bacteriology agree that a negative test of virulence with a culture that has been injected into a guinea-pig is the only reliable test which will exclude some of the forms of diphtheroid organisms, and the simple presence of an organism pronounced by a bacteriologist from his routine culture methods, such as are used in public health work, is not sufficient evidence. A positive report that such an organism as the diphtheria bacillus is present will not be accepted in a court of law, if some one asks whether it is a virulent organism or the true diphtheria bacillus. If its virulence has been tested, and it kills a guinea-pig with typical lesions, the evidence will be accepted.

DR. CHARLES V. CHAPIN, Providence, R. I., said that as a health officer he undertook to restrain a boy who had diphtheria bacilli in his throat from mingling with other children, but the boy was not sick, and the court decided that he did not have diphtheria. Disease is one thing, but infection with disease germs is another thing. He feels very sure that the courts will interpret the term disease as applying to a pathologic condition of the human body. They will not apply the term disease to a condition in which there is the presence simply of the organisms which may cause disease, and when, for some reason or other, they do not cause disease.

DR. J. J. KINYOUN, Jacksonville, Fla., said a great many health officers and the majority of physicians place too much stress on positive tests or preliminary cultures. He thinks that just as soon as they attach less importance to preliminary tests and more importance to discharge tests, the better it will be for patients. In other words, the free use of antitoxin will cure more cases of diphtheria and render the office of the health officer less difficult. As to what constitutes diphtheria legally, he feels that the judge who rendered the decision referred to by Dr. Chapin was wrong, because if that generally held, health officers would have to abandon practically all quarantine measures.

DR. WILLIAM BAILEY, Louisville, Ky., said he does not appreciate fully the close distinction that is made between legal and non-legal diphtheria. Whatever may be the judgment of a court, he thinks that any child who has the bacillus of diphtheria in his throat ought to be put under control. He would not like a child of his to associate with such a child, and even if it could be decided technically that in a given case the bacillus is non-virulent, it may become virulent. On the same principle one may take a rag or cloth that has come in contact with a smallpox patient into court, and while the court, perhaps, will not decide that the rag has smallpox and can not be convicted, yet he thinks it is wise to take care of the rag the same as he would a child who had the bacilli of diphtheria in his throat.

DR. CHARLES A. HODGETTS, Toronto, Ontario, mentioned an industrial school in Ontario of 250 scholars, in which for two or three years, now and then, there are true cases of diphtheria which are isolated. Of this number over 50 per cent. of the pupils are found to be the carriers of diphtheria bacilli. Those found to be sick are given immunizing doses of antitoxin and are segregated. The school teachers and children, however, grew tired of this segregation, and very soon these children were allowed to associate with the other. It would not surprise him if at any time cases of diphtheria are reported from that school. These cases should be dealt with in a rigid manner.

DR. HILL, in closing the discussion, said it is necessary to take action as soon as possible whenever the existence of diphtheria is suspected among school children.

Control of So-Called Minor Infectious Diseases.

Papers were read on the subject by DRS. A. G. YOUNG, Maine, and ALFONSO PRUNEDA, Mexico City, in which the authors discussed measures for controlling whooping-cough, measles, etc.

DISCUSSION.

DR. GARDNER T. SWARTS, Providence, R. I., said there is nothing more annoying than a lack of control of the minor infectious diseases. Health officers and physicians can not impress on the public too strongly the importance of controlling measles and whooping-cough, for as long as these diseases are treated with indifference, both by physicians and the people, so long will they continue to spread contagion. Even though they can not be altogether prevented, they can be checked in a measure. The sooner physicians impress on school authorities and teachers that these minor diseases are dangerous to the public health, and laws and ordinances are enacted to that effect, the better it will be for mankind.

DR. QUITMAN KOHNKE, Covington, La., said the importance of the so-called minor infectious diseases depends on locality, environment and climatic condition. Each locality should be guided by the local importance of any particular disease, and should adopt such measures as are justified.

Typhoid Fever at Knoxville, Tenn., and Its Relation to the Water Supply.

MESSRS. ROBERT S. WESTON and RALPH C. TARBETT, Boston, contributed a joint paper on this subject. The evidence is against the supposition that the water supply is a cause of the high death rate from typhoid fever at Knoxville. The writers maintain that if the geographic distribution of each case for two or three years could be studied as it occurred, the causes of the disease would be shown and the remedy would suggest itself. Their studies show the importance of paying more attention to the hygiene of the household independent of the great problems of public water supply and sewerage. Undisinfected typhoid excreta, and other infectious material which can become insect-borne, should be destroyed, and typhoid patients should be forced by education and law to protect their neighbors against infectious disease.

DISCUSSION.

DR. QUITMAN KOHNKE, Covington, La., said that his experience in New Orleans bears out the opinion that typhoid fever there is brought from other places, notably summer resorts, in at least 90 per cent. of the cases. Typhoid fever should be considered important whenever it occurs, and it will be competent in his opinion for the association to issue recommendations based on those facts.

DR. JOHN A. MACDONALD, Brandon, Manitoba, said that typhoid fever has been prevalent in Brandon and thereabouts for twenty-four years, every fall. Sometimes it will come on in August and run its course in epidemic form for two or three months. One thing very noticeable this year was the absolute absence of flies until about six weeks previously. It is a curious coincidence, if such it may be termed, that typhoid was absent until the flies appeared. During the greater part of the summer very few flies were seen, and it seems to him that this is a noticeable observation in connection with the possible dissemination of typhoid fever by flies.

DR. EDWARD V. HUG, Lorain, Ohio, said that Lorain was one of the first cities to adopt the mechanical filtration method of dealing with water. For several years that city had no sewer system. This was prior to 1892, and during those years the death rate from typhoid was about 44 per 100,000 population. During the past two years, 1906 and 1907, so far the death rate has reached 34 per 100,000. But during these years the city has been building a new plant, with a capacity of 6,000,000 gallons a day.

DR. HIBBERT W. HILL, Minneapolis, has seen outbreaks of typhoid fever beginning with the freezing of the water supply and terminating when the river, for instance, thaws. In a town in the Red River Valley, with a population of 4,000 people, 10 per cent. of the inhabitants had typhoid fever due to a polluted water supply. The epidemic began when the river was frozen, but ceased when the river had thawed out again.

DR. HENRY D. PEASE, Albany, N. Y., corroborated what Dr. Hill had said with reference to winter epidemics of typhoid fever due to the pollution of water supplies. He mentioned five or six epidemics of typhoid fever that have occurred, some in small towns, and some in large ones, which followed the course that was mentioned.

Contact Infection.

DR. CHARLES V. CHAPIN, Providence, R. I., said the valuable report on typhoid fever in our Army during the Spanish war and the observations of the English in the Boer war indicate very clearly contact infection as the chief factor in camp typhoid. Jordan's report on typhoid fever in Winnipeg also lays great stress on this mode of infection, and many recent writers in Germany and America attach great importance to it. It is the author's opinion that the larger part of the typhoid fever in the United States to-day is caused in this way. Only a small part is due to infected water or milk, and still less to infected air. There is ample room for improvement in the management of contagious diseases. We must teach those who have the care of the sick not to waste so much time on the invisible dry and dead micro-organisms of the air, but to use more soap and water on their hands. Better still, try not to infect the hands or clothes in the sick room. There is a great deal of unnecessary handling of the patient and of infected

articles by health officers, physicians and nurses. By paying more attention to contact infection, isolation in the family and hospital will be easier and more successful.

Uncinariasis in Florida.

DR. J. J. KINYOUN, Jacksonville, Fla., undertook an investigation of this disease to ascertain the prevalence of the infection and to see how far the average practitioner would be interested in such an investigation and the eradication of the infection. He examined the children of two orphanages in Jacksonville. There were 39 cases of the disease in all. Careful examination of all the cases showed that the children were undeveloped and were of low mentality. He contends that the majority of patients are infected through the skin, and a few through the alimentary tract. Although the latter can not be altogether excluded, the avenues of infection are far less than that of the skin. He urged that a systematic study of the prevalence of the disease in the state be undertaken.

High Altitudes in Tuberculosis.

PROFESSOR WEINZIRL, New Mexico, said that his observations have led him to conclude that the great changes in the daily temperature observed at high altitudes act as a stimulant on patients, and this is the main factor in the high, dry climate cure of tuberculosis. Dryness, altitude and sunlight are important, he said, mainly because they are instrumental in producing these great temperature variations, which insure cold nights and refreshing sleep, while the stimulation produces a better appetite, better digestion and the assimilation of food, thus affording the consumptive strength for combating the disease.

Effect of Heating on the Determination of Leucocytes in Milk.

PROF. H. L. RUSSELL and MR. CONRAD HOFFMANN, Madison, Wis., contributed a joint paper on this subject. In the methods heretofore proposed for the determination of the cellular content of milk, an important factor influencing the accuracy of the determination has been overlooked. It was found that pasteurized milks almost invariably showed a higher cellular content than unheated milks. The authors found that the heating of the milk to 70 C. for fifteen minutes increases the cellular content from 1 to 30 per cent. above that of the unheated milk. This increase was found to be most marked between 60 C. and 70 C., the temperature at which the fat globule clusters are broken up to form a more or less homogeneous emulsion. Many cellular elements are normally entangled in these clusters, and are liberated only when the latter are broken up. That these cells are so enmeshed is clearly shown by allowing whole milk to separate by gravity and then examining the cream and skimmed milk thus obtained. The cream shows a very high cellular content as contrasted with that of the skimmed milk. When milk is first heated, the number of cells found in the cream is materially diminished, and those in skimmed milk increased. It is evident that the cellular elements are carried up with the cream, and unless the milk is heated, a large number will be drawn off with the supernatant fluid, and thus escape enumeration. Examination of this fluid from unheated and heated samples gives much higher results for the former than the latter. Heating of the milk prior to centrifugalization permits of increased accuracy, as evidenced from a large series of duplicate determinations, which showed an average variation of only 2.7 per cent. It is accordingly deemed advisable to heat all milks prior to examination for leucocytes high enough to destroy the fat globule clusters.

Determination of Intestinal Bacteria in Milk.

DR. DANIEL D. JACKSON, Brooklyn, said a demonstration of the value of the lactose bile medium for determining the presence of intestinal bacteria in water has led to its use in the determination of *Bacillus coli* in milk. The restraining action of the bile salts on growths of the numerous other species of bacteria in milk admits of its use, whereas the Smith solution gives entirely unsatisfactory results for this purpose, due to overgrowths and to the production of gas by species other than *B. coli*. Contrary to expectation, it is found that when other species are present, the *B. coli* does not increase in number in milk, but gradually decrease, so that the extent of fecal contamination can be measured. The range is found to fall within the same dilutions as in water analysis. A clean milk, or one that has been pasteurized, rarely gives the test for *B. coli* in the 1 to 10 dilution. A carelessly handled milk will give the test in the 1 c.c. dilution. A contaminated milk will give positive tests in the 1/10, 1 and 10 c.c. dilutions.

Diphtheria Diagnosis.

DR. B. R. RICKARDS, Boston, referred to some of the factors which enter into the bacteriologic diagnosis of diphtheria. The question of types on which a positive report shall be given was discussed from both the standpoints of diagnosis and release, the question being raised that in some cases greater leeway shall not be allowed in release cultures owing to the clinical evidence of the organism. The personal element still enters into diagnosis to a certain extent, but could and should be reduced as much as possible. It is better for the diagnostician to have no knowledge of the clinical data of a case until the bacteriologic diagnosis is made, owing to the mental bias which may otherwise be produced. In testing diphtheria organisms for virulence, varying results in the virulence of organisms isolated from the same culture have been noticed, and further work along this line is very necessary. Dr. Rickards believes that there should be greater uniformity in the various laboratories as to what forms should be considered as positive for diagnosis and release, and he emphasizes the necessity of further experimental work on most of the points regarding the value of co-ordinating diphtheria diagnosis and diagnostic procedures in general, in order that it may be placed on a standard basis.

The Diagnosis of Rabies.

DR. A. W. WILLIAMS, New York City, said that three methods have been used in helping to establish the diagnosis of this disease. First, animal inoculations; second, sections for the presence of small-celled accumulations about the blood vessels and ganglion cells; third, sections and smears for the presence of so-called Negri bodies. The second method has fallen largely into disuse, because the histologic changes on which its value depends have been shown to be non-specific for rabies. The first method is used as a decisive test when results from the third method are doubtful. The results obtained from the use of the third method are as follows: 1. Negri bodies demonstrated, diagnosis rabies. 2. Negri bodies not demonstrated in fresh brains, diagnosis very probably not rabies. 3. Negri bodies not demonstrated in decomposing brains, diagnosis uncertain. 4. Suspicious bodies in fresh brains, diagnosis probably rabies.

The demonstration of the Negri bodies by smears is the most rapid and efficient method so far published. Improved technic has lessened the number of suspicious or uncertain cases.

He described the technic of the smear method at present in vogue in the research laboratories of the New York City Health Department.

Milk.

There was a symposium on this subject. PROF. E. B. VOORHEES, New Brunswick, N. J., said the public should realize that even at 12 cents good milk is the cheapest and best nourishment it is possible to buy. To produce pure milk at the present selling price in the big cities at a profit to the farmer is impossible. The most careless dairyman can not turn out even his inferior grade of milk for less than 4.7 cents a quart, while an average cost of the production of 5 cents is the lowest practical rate. A very small additional expense in the price of milk is necessary to guarantee absolute purity and general quality of milk.

PROF. C. B. LANE said that the majority of dairymen would prefer to sell only the best milk procurable, if the public would pay for it, and he declared that the general public is quite willing to stand the higher rate. More stringent legislation is needed to procure permanent results. At the present time the man who adds water to the milk is fined. Generally, the man who sells impure milk goes scot-free, and this despite the fact that the latter is much the greater menace. He ad-

vises national laws modeled after the British statutes, which permit a consumer to sue for damages a dealer who supplies him with impure milk.

DR. THOMAS DARLINGTON, New York, advocated that each community shall look after its own milk supply. He recommended systematic and constant inspection, in the first place, and, in the second, the prevention of the sale of any milk which is unwholesome and adulterated. Every dairy and every creamery supplying New York City has already been inspected. In regard to preventing the sale of unwholesome milk, he mentioned that the Court of Special Sessions recently had 260 cases before it. Gastrointestinal diseases have been markedly reduced since the proper inspection of milk has been enforced.

PROF. R. A. PEARSON, Cornell University, discussed the production of milk under five headings, namely: Health of the cow; cleanliness of the cow and her surroundings; condition of the utensils in which the milk is handled; cleanliness of the employés, including their health, and the cooling and storing of the milk. Speaking of the tuberculin test, he said that when farmers clearly understand its true value, they will want this test made. When they are shown by demonstration that which they fail to understand, they are anxious to have this test. Very many milk producers are honest and anxious to do what is right. They need instruction. A campaign of education has been begun. It needs support. Every milk producer should have the opportunity to know the latest concerning his business, then many of them will make the desired improvements in their dairies, and the realization of ideal dairying will go hand in hand with the necessity of enforcing laws.

Social Ethics as Influenced by Immigration.

DR. PETER H. BRYCE, Ottawa, Canada, said that immigrants are pouring into the United States and Canada at the enormous rate of a million and a half annually, and it is a grave question whether this tremendous influx of human flotsam and jetsam will be assimilated or continue a foreign mass and a menace to the nation. Invasion of foreign labor has driven American girls from mills and factories to a higher plane of employment. But the standard of intelligence is too low for foreign competition to seriously affect American mechanics. The mental status of immigrants to-day is higher than that of many years ago. Steamship companies, forced by close competition, expend enormous sums in new ships, deliberately seeking the immigrant as a means of making up their losses. This is one of the evils of the problem with which the United States and Canada have to contend.

The Mexican delegates reported that their country is constantly raising the barriers against undesirable immigrants, and urged that the United States Government at Washington formulate a new code of laws that would be suitable for adoption also by Canada and Mexico.

Trachoma and Immigration.

DR. AUGUSTIN CHACON, Mexico City, said that immigrants to that republic have been the cause of an epidemic of this disease of such serious proportions that it will be absolutely necessary for the government to adopt radical measures for the protection of the country.

Ophthalmia Neonatorum.

DR. F. PARK LEWIS, Buffalo, presented this subject to the association. A committee was appointed to confer and cooperate with a like committee of the American Medical Association and with the committees appointed by other medical societies, to prevent this disease.

Officers.

The following officers were elected for the ensuing year: President, Dr. Richard H. Lewis, Raleigh, N. C.; first vice-president, Dr. Gardner T. Swarts, Providence, R. I.; second vice-president, Dr. Charles J. Hodgetts, Toronto, Ontario; third vice-president, Dr. Manuel Iglesias, Mexico City; treasurer, Dr. Frank W. Wright, New Haven, Conn.; secretary, Dr. Charles O. Probst, Columbus, Ohio.

Winnipeg, Manitoba, was selected as the place of meeting in 1908.

Medicolegal

Not Entitled to Recover from County for Services and Medicines Furnished Prisoners in Jail.

The Supreme Court of Missouri, Division No. 1, says, in the case of Miller vs. Douglas County, that the plaintiff filed for allowance and payment, in the county court of Douglas county, an itemized claim for $116.55 for medical services and drugs furnished to divers prisoners confined in the jail of that county during the year 1902. He introduced evidence tending to show that from time to time, at the request of the sheriff in some instances, and the request of the jailer in others, and of the prosecuting attorney in still others, he furnished to certain prisoners confined in the jail, medicines and medical attendance of the reasonable value of the amount claimed. By other evidence he showed that, prior to rendering the services and furnishing medicines sued for, he had furnished medicine and services under similar circumstances under some verbal arrangement with different members of the county court, which had been paid, and other evidence tending to show that he relied on this loose arrangement continuing to run and to cover the medicines and services in suit. It was shown there was no written contract between the plaintiff and the county court. There was no evidence that the plaintiff had been appointed county physician. There was evidence that the prisoners, or some of them, were confined on charges of murder, rape, and other felonies. There was no evidence that the attendance on and medicines furnished to any of these prisoners had been taxed as costs or allowed in fee bills and pay payment sought in that way.

The county court refused to allow and pay the claim, and the plaintiff appealed to the circuit court, where, on trial anew with the aid of a jury, a judgment went in his favor for $83. But the supreme court holds that the jury should have been peremptorily instructed to find for the defendant, because, by Section 6759 of the Revised Statutes of Missouri of 1899, it is provided that "no county . . . shall make any contract, unless the same shall be within the scope of its powers or be expressly authorized by law, . . . and such contract, including the consideration, shall be in writing and dated when made, and shall be subscribed by the parties thereto, or their agents authorized by law and duly appointed and authorized in writing." Manifestly the plaintiff could not maintain his case under the authority of that section.

By Section 1800 it is provided that: "If a claim against a county be for work and labor done, for material furnished in good faith by the claimant, under contract with the county authorities, or with any agent of the county lawfully authorized, the claimant, if he shall have fulfilled his contract, shall be entitled to recover the just value of such work, labor and material, though such authorities or agent may not, in making such contract, have pursued the form of proceedings prescribed by law." But the plaintiff's suit could not be maintained under that section, for there was no contract entered into with the county authorities, or with any agent of the county lawfully authorized, and lawful authority is a condition precedent to the making of a contract under that section, even if the section be construed broad enough to include professional labor and medicine.

By Section 8134 it is provided that: "In case any prisoner confined in the jail be sick, and, in the judgment of the jailer, needs a physician or medicine, said jailer shall procure the necessary medicine or medical attention, the costs of which shall be taxed and paid as other costs in criminal cases; or the county court may, in their discretion, employ a physician by the year, to attend said prisoners, and make such reasonable charge for his services and medicine, when required, to be taxed and collected as aforesaid." That section is authority for a jailer to procure the necessary medicine or medical attention to a sick prisoner in his custody. But it is expressly provided that the costs of such medical attention and medicines "shall be taxed and paid as other costs in criminal cases." Costs in criminal cases are taxed by the proper officers, are certified by fee bills under the official oaths of prosecuting attorneys and judges of the various circuit courts, and are

paid either by the county or by the state, as the case may be, on such certified fee bills. Manifestly, the plaintiff could not recover under Section 8134. That section further provides that the county court may employ a physician by the year; but the plaintiff did not contend there was any such appointment.

Wherefore, the court says that under no statute known to it could this suit be maintained, and therefore the judgment obtained must be reversed.

Practice of Medicine by Farmer with Cancer Cure.—Meaning of Provision as to "Domestic Medicine."

The Supreme Court of Kansas affirms, in the case of State vs. Huff, a conviction on a charge of violating the statute which forbids any one to practice medicine who has not received a certificate of qualification from the state board of medical registration and examination. It says that there was little room for controversy as to the facts in the case. The defendant took the stand in his own behalf, and testified that he was a farmer; that he was not a doctor; that he manufactured from vegetables grown on his own farm what he believed to be a remedy for cancer; that he had used it on from 50 to 75 different patients, one of whom was Mrs. Stewart, the person named in the second count of the information; that he applied it himself, describing the process thus: "I take a little stick and get a little medicine on it, and put it on the cancer, the diseased part, and that works from fifteen minutes to half an hour, until it works the strength out of the medicine, and I then clean that off and apply it again." The state's evidence showed, or tended to show, that the defendant had treated Mrs. Stewart under a contract, by the terms of which he was to receive $50 down and a like amount when a cure should be effected; that the first $50 had been paid to him.

It was claimed on behalf of the defendant that the evidence, the scope of which was fairly indicated by the foregoing statement, did not warrant a conviction under the pleading, inasmuch as the application of the purported remedy was a surgical operation, while the information charged only the practice of medicine, and nowhere even mentioned surgery. But the court considered that to discuss the technical distinctions relied on to sustain this contention would be a useless waste of effort. The court was concerned only with the interpretation of the Kansas act, which provides that for its purposes any one shall be regarded as practicing medicine and surgery "who shall prescribe, or who shall recommend for a fee, for like use, any drug or medicine . . . for the cure or relief of any . . . infirmity or disease of another person." The language quoted was followed in the information, and, if the defendant's acts were within its terms, it was immaterial whether they also amounted to the practice of surgery.

But it was further argued that "the prescribing and recommending denounced by the act refers to drugs and medicines to be used by the patient himself," and that as the defendant in this case applied the remedy he was not within the terms of this part of the statute. Possibly the word "prescribe" may sometimes have the meaning thus attributed to it, although it is not clear why the same person may not prescribe and administer a remedy. But a broader intention is evidenced by the accompanying phrase "or recommend for a fee for like use," which appears to have been employed to guard against any narrow or technical construction. The jury were abundantly justified in finding that the defendant did not contract for the payment to him of the $100 either as the purchase price of the material he furnished, or as compensation for his service in applying it, but that the charge was essentially one for imparting his peculiar knowledge of its curative powers, and that the transaction therefore amounted to recommending a medicine for a fee within the letter and spirit of the law.

Several assignments of error involved the consideration of the meaning of the provision of the medical act that nothing therein shall apply to "the administration of domestic medicines." The trial court instructed the jury that: "The term 'domestic medicines,' as used in this law, means medicines as practiced by unprofessional persons in their own families or households." This instruction was manifestly based on the definition of the phrase "domestic medicine," found in several standard dictionaries. The Century and Imperial define it as "medicine as practiced by unprofessional persons in their own families;" the Encyclopedic as "the practice or use of medicine by unprofessional persons in their own households."

Objection was taken to the application made of these definitions on the somewhat plausible ground that "medicine" is there used abstractly, referring to the science or practice of medicine, while in the statute "medicines" is obviously used concretely, referring to substances, as a synonym for "remedies." The force of this objection is lessened by having regard to the entire phrase employed in the statute—"the administration of domestic medicines." Although it can hardly be strictly accurate to say that the bare words "domestic medicines" means "medicine as practiced by unprofessional persons in their own families," the expression, "the administration of domestic remedies," taken by itself, might well be thought to mean just that. Of course, if the instruction conveyed a correct idea as to the force of the statute, it is not material that it was open to verbal criticism.

The Kansas medical act does not follow closely that of any other state, but it bears internal evidence of having been modeled in part on the Ohio statute of 1900, where the corresponding language is that the act shall not be construed to prohibit "the domestic administration of family remedies." Precisely the same expression is found in the laws of California, Massachusetts and New Mexico. Those of Indiana and Utah read, "the administration of family remedies;" of Nebraska, "the administration of ordinary household remedies." In Illinois, in a recent revision, "the domestic administration of family remedies" was changed to "the administration of domestic or family remedies." These slightly different but substantially similar phrases seem intended to express the same essential thought. That they were in such general use when the Kansas statute was enacted suggests a purpose to cover about the same ground by the words, "the administration of domestic medicines;" that is, the domestic administration of medicine—the administration of medicine in one's own family.

The court quotes further from the lexicographers, and then says that the greatest difficulty with the view adopted by the trial court seems to be that, as the statute permits gratuitous services of all kinds, there could be little or no force to a further provision that any one might administer medicine in his own family, inasmuch as it can hardly be thought to have been within the contemplation of the legislature that a charge would ever be made for such administration. This difficulty is so serious that rather than attempt its solution the court prefers to inquire whether under any reasonable view of the law the defendant could have been prejudiced by the instruction referred to. It thinks that he could not.

The defendant's attorney maintained, in effect, that no definition of the word "domestic" was necessary; that it is a primitive word, not capable of being made clearer by other terms; that only confusion could result from an attempt to explain it; that it should have been left to the jury to say what domestic medicines were, and whether the substance applied by the defendant was a domestic medicine. To this the court can not agree. There are, of course, it says, some words which are so common and so well understood that they require no definition; but "domestic" is not one of them. It is susceptible of a variety of meanings, and shades of meaning, according to the connection in which it is employed. As used in the statute, the court does not believe that it referred to medicines of home manufacture, or to those manufactured from vegetables grown at home. If it did not have the precise meaning attributed to it by the trial court it must have had much the same force as in the pharmacy act. No other reasonable construction occurs to the supreme court, and none was suggested. There it is provided that "in rural districts, where there is no registered pharmacist within five miles, it shall be lawful for retail dealers to procure license from the board of pharmacy at a fee of $2.50 annually, to sell the usual domestic remedies and medicines." In determining the meaning of this the court is aided by judicial and legislative construction.

The phrase "domestic medicines," referring to those remedies which are in fact used by a non-professional person in his own home, appears to have been diverted from its original and literal import, perhaps in part by the addition of the qualification "usual," so as to signify such substances as are commonly kept by non-professional persons in their own homes for use as remedies in the absence of a physician, being necessarily substances the effect of which is a matter of general knowledge, so that no special training is required for their safe administration. If this signification be accepted as that intended in the medical law, it is obvious that cases may arise in which it is proper to submit to a jury the question whether a particular remedy, which a defendant may be charged with administering under such circumstances as to make the act unlawful, was a domestic medicine; but no such situation was presented here. There was nothing in the evidence in this case to suggest that the substance applied by the defendant was one in common use or one the effect of which was generally understood.

Apart from this, other considerations compel the conclusion stated. The statute in general terms forbids one not having a certificate to practice medicine. It adds that any person shall be regarded as practicing medicine who shall prescribe or recommend for a fee for like use any drug or medicine; that registered osteopaths may practice their profession, but "shall not administer drugs or medicine of any kind;" and that nothing in the act shall "apply to the administration of domestic medicine" or "prohibit gratuitous services." It would defeat the manifest purpose of the law to hold that under these provisions a defendant, charged and proved to have received money for recommending a certain substance as a cure for disease, might exculpate himself by showing that the substance he recommended was a domestic medicine, in the sense that it was a well-known remedy, the effect of which was a matter of common knowledge. A non-professional person is permitted under the law to administer domestic medicines, but not to take pay for recommending their use. The theory of the state is that one who proposes to ask and receive compensation for advice as to the use of medicines thereby holds himself out as possessed of special and peculiar information on the subject, and that it is the province of the state to see that he possesses it, or in default of proof thereof to prevent his making the unfounded claim a source of revenue. To the charge that an incompetent person had unlawfully taken pay for recommending the use of a particular remedy it is no answer to say that the remedy is one the effect of which is a matter of common knowledge, and which for that reason may be administered by any one without a violation of the law.

Under the defendant's own statement he was guilty of the offense charged against him, if, for a fee, he recommended the use of his medicine as a remedy for cancer, whether it was a "domestic medicine" or not. The jury by their verdict found that he did so, and the evidence abundantly justified the verdict. The instruction referred to therefore could not have prejudiced him, and constituted no error of which he could complain.

Current Medical Literature

AMERICAN.

Titles marked with an asterisk (*) are abstracted below.

New York Medical Journal.

October 5.

1 *Morbid Impulses and Their Medicolegal Importance. A. Gordon, Philadelphia.
2 Varieties of Tuberculosis According to Race and Social Condition. W. Hutchinson, New York.
3 *Incarceration of the Retrodisplaced Gravid Uterus. C. W. Barrett, Chicago.
4 Intratympanic Operations Under Local Anesthesia. M. J. Hallin, New York.
5 *Adhesive Plaster for the Cure of External Diseases and Lesions. M. B. Hutchins, Atlanta, Ga.
6 *Hypertrophic Wandering Spleen with Torsion of the Pedicle. M. S. Kakels, New York.
7 Treatment of Tuberculous Cystitis. J. M. Garrett, Buffalo.
8 Congenital Syphilis. W. B. Jennings, New York.

1. **Morbid Impulses.**—Gordon describes the characteristic features of an obsession as (1) lucidity as to the phenomenon; (2) energetic struggle against the invaded thought, and (3) moral torture. The elements of morbid impulses are (a) sudden function of a center, or of a group of isolated centers without participation of reason; (b) momentary impulses of will controlling the act. After considering at length the nature and character of obsessions and morbid impulses, the author deals with the question of responsibility in such cases. He points out that some jurists are loath to accept the modern scientific principles of anthropology, and adds: "It is of course proper to advise, as they do, to moderate the passions and to learn to control them, but this is possible only for a brain free from any hereditary or acquired taint. It is just as difficult to control and direct the operation of a brain whose anatomic and functional integrity is affected, as it is to hold oneself straight with a spinal column which is scoliosed or otherwise deviated." The first point to be determined by the expert in regard to a person accused of crime is whether he is insane or only a neuropathic individual affected with obsessions and morbid impulses. A morbid obsession is characterized by a combination of absence of motive for the crime, perfect integrity of conscience, and a preceding mental struggle. In the first stages of a mental affection, in epilepsy between the attacks, in some cases of paranoia, the decision as to insanity is more difficult, and the expert must surround himself with all possible precautions before deciding on the patient's responsibility. The determination of the degree of responsibility should also be placed in the hands of an alienist, who alone is capable of determining it. The author protests against the legal idea of responsibility, which considers that a man may be sane before or after the crime is committed, but insane during the act: "For if the delusive ideas are apt to originate in the brain, the function of its constituent elements is certainly disturbed. In such a brain one certain delusion may be formed and then remain fixed, but by the very reason of this fact this brain must be considered diseased, and misconceptions with misinterpretations may become manifested at any moment."

The corollary from this is that a neuropath presenting episodic paroxysms of pathologic impulses can not be considered fully responsible for his criminal tendencies and acts, and that instead of being committed to prison he should be removed from society and placed safely to undergo medical treatment. Other points laid down by the author are the administration of houses of correction by alienists and pedagogues, special institutions with medical attention for youthful criminals, and prophylactic measures as a part of social hygiene to replace the conviction of criminals intellectually and morally defective.

3. **Retrodisplaced Gravid Uterus.**—Barrett concludes as follows:

1. Although pregnancy may be a means of correcting some cases of retrodisplacement, each case of pregnancy and each case of retrodisplacement has added clinical significance when the two conditions are combined.
2. With the onset of pregnancy a retrodisplaced uterus should be returned to normal position as soon as possible and supervised during the early months of pregnancy.
3. An irreducible retrodisplaced gravid uterus may be given time to rise out of the pelvis with growth if symptoms of early or late incarceration do not present.
4. An irreducible retrodisplaced gravid uterus that shows early symptoms of incarceration which might lead to abortion, or late incarceration, with its attendant evils, should be replaced by means of a celiotomy; the complications should be dealt with, and a radical operation should be performed to permanently cure the retrodisplacement.
5. Cases of late incarceration may be met in which gangrene, septicemia, peritonitis, uremia, etc., may contraindicate celiotomy for replacement and in which drainage of the bladder, drainage of the peritoneum, emptying of the uterus, or hysterectomy may be indicated.
6. The latter cases, now uncommon, will be rare indeed if the former teaching is generally accepted.
7. Careful celiotomy will seldom be the cause of abortion, but abortion will sometimes follow the operation as a result of the incarceration.
8. This, instead of contraindicating an operation, points to the necessity of earlier operative measures.
9. This earlier resort to operative treatment appeals to the judgment of the patient and the physician when it can be shown that a radical cure of the displacement and its complications is feasible.

5. **Adhesive Plaster Treatment of Abscesses.**—Hutchins writes a further paper on the treatment of boils, abscesses, etc., by a small incision, the expression of the contents until blood and serum begin to appear and the cavity is milked dry, swabbing with 95 per cent. carbolic acid, applying a small pad of cotton,

and covering the whole area with adhesive plaster. He reports eleven cases.

6. **Wandering Spleen.**—The author's conclusions are as follows:

1. Rotation of an organ or tumor with twisting of its pedicle may be due to intrinsic or extrinsic causes, depending on the size, the nature, and situation of the same.
2. Both intrinsic and extrinsic causes may be factors in the rotation of an organ.
3. A *sine qua non* for displacement or rotation of an hypertrophied spleen is relaxation or rupture of its supporting ligaments.
4. Every intraperitoneal wandering organ or growth should be operated on in order to avoid the serious consequences of ileus or of torsion of its pedicle.
5. Removal of a wandering spleen, in view of the low mortality, may be classified as a justifiable operation, when threatening symptoms arise.

Medical Record, New York.

October 5.

9 *Uric Acid Symptoms (Rheumatism) and Their Relief by Colchicum and the Salicylates. A. H. P. Leuf, Philadelphia.
10 Early Diagnosis of Gastric Cancer. L. M. Gompertz, New Haven, Conn.
11 *What Is the Function of the Gall Bladder and Why the Folds of Heister in the Cystic Duct? M. R. Barker, Chicago.
12 *Diagnosis of Glanders in the Human Subject. A. Silkman, New York.
13 *Incision and Treatment of the Stump in Appendectomy. J. B. Bissell, New York.
14 *Sensibility of the Human Visceral Peritoneum. E. Beer, New York.
15 Chronic Pharyngitis. R. M. Miles, Scranton, Pa.
16 Fibroma Molluscum and Pendant Tumor of the Breast. C. W. Perkins, Princeton, N. J.

9. **Uric Acid Symptoms.**—Leuf states that uric acid in the urine is usually associated with the term rheumatism. The future will probably resolve many different "rheumatisms" into their separate clinical entities. The etiology of excessive uric acid formation is unknown and its symptomatology not fully known, but the term rheumatism may generally be used as synonymous with uric acid excess. Uric acid accumulation may exist in the body, disturbing all the tissues, though some more than others, without being present in the urine. Only a single symptom may appear when even large quantities of the acid are present. Many uric acid conditions are not recognized as such. Symptoms that are benefited by colchicum or the salicylates are most probably due to uric acid. Uric acid, he declares, is a cause of cutaneous rheumatism, sore throat, irritable bladder, acute urethritis, ocular rheumatism, aural rheumatism, toothache, irritative catarrh of the excretory mucosa, and visceral rheumatism, and all these conditions, when due to uric acid, may be benefited by colchicum or the salicylates. Formation in excess of elimination seems to be the cause of uric acid symptomatology, whence its influence is most marked on structures poor in circulation, as ligaments, bones, or serous membranes. The bowels should be kept freely open with magnesium sulphate, medicines should be pushed until effective, or until contraindicated by physiologic evidences. All influences, such as heat, negative galvanism, the static breeze and warm bathing, which increase circulation about the affected area are very beneficial. All remedies that hasten elimination or increase oxidation are beneficial in uric acid conditions.

11. **The Gall Bladder and the Folds of Heister.**—Barker maintains that the gall bladder secretes a substance essential to the highest physical development and perfect working of the system, but not a substance essential to the life of the system, nor without which the system may not sustain a high degree of perfection and well being. This secretion is mixed with bile in the gall bladder periodically, and forced from the gall bladder into the common duct at intervals. The folds of Heister are controlled by the sympathetic nervous system, and are always closed tightly, thus preventing anything passing through the cystic duct, except as these folds are relaxed and the duct is opened by the nervous mechanism controlling it. The action of this mechanism may be suspended temporarily by anesthesia or surgical procedures, and suspended or completely destroyed by the diseased condition; or the mechanism may act in a sluggish and imperfect manner in certain temperaments and under unfavorable conditions. The needs of the system for the gall-bladder secretion act as a stimulus on the nerve centers controlling the folds of Heister, causing them to relax, thus allowing bile to flow through the cystic duct into the gall bladder, and there mix with its secretion, diluting it, and rendering its passage through the cystic duct into the common duct comparatively easy, this being necessary because of the feeble contractile power of the gall bladder and the viscid nature of its secretion. When this cycle is completed the folds of Heister close and remain closed until the system again demands the secretion of the gall bladder, when the cycle is repeated. Thus this mechanism functionates during the life of the individual, or until disturbed or destroyed by some abnormality.

12. **A Veterinarian's View of Human Glanders.**—According to Silkman glanders in the human subject is not the rare disease it is generally supposed to be. Many deaths due to glanders have been indirectly attributed to other causes. In its first stage it greatly resembles typhoid fever; later, lung complications cause it to be mistaken for lobar pneumonia; still later articular pains resemble rheumatism; suppurative periarthritis is a common complication; intramuscular abscesses in glanders, when opened, will be found to have no wall. A pathognomonic lesion of glanders appears on the face, neck and shoulders, and sometimes on the body, three or four days before death; it is characterized by pustules with rough, uneven ulceration around the edge. Removal of the tissue covering, immediately prior or subsequent to death, discloses an anemic, whitish aureola surrounding the farcy ulceration. The author reports five cases in detail and concludes from experiments with mallein in horses that "with small and repeated injections of specially prepared mallein at the initial stages of subacute cases in the human subject the disease would yield and change into a chronic form, with the possibility of ultimate recovery."

13. **Appendicectomy.**—Bissell says that the incision should be so made that (1) the offending organ can be safely, easily, completely, and expeditiously removed; (2) the belly wall itself may receive the least possible damage; (3) the shock may be as slight as a capital operation will permit. He reviews the incision of various authorities and expresses his preference for that described by Battle in 1895 consisting of a vertical incision from two and one-half to three inches long, over the right semilunaris, through the skin and back, down to the rectal aponeurosis, which is opened for the length of the skin incision, but a finger's breadth nearer to the median line. The rectus is retracted to the left and the posterior sheath and the peritoneum are cut through together, avoiding the deep epigastric vessels. When the wound is closed it is in three layers of sutures not in line with one another. The four indications in dealing with the stump are as follows: Speed; to do little damage to the tissues about the appendix; to remove or destroy all infectious material; to leave behind no foreign body, or material acting as such.

Bissell's method is as follows: The mesoappendix is tied off by one thread of a double ligature passed close to the base by means of an aneurism needle and the other thread of the ligature is tied around the appendix close to the cecal wall; a narrow artery forceps grasps the appendix a quarter of an inch away from this last ligature. After surrounding the cecum and protecting the peritoneum in the usual manner with gauze tapes wrung out dry with saline solution, the appendix is burned through rapidly with a red hot cautery tip, burning out thoroughly the mucous membrane of the stump. The free ends of the ligature, of which there are two, one for the stump and one for the mesoappendix, are cut off close, unless it is intended to drain. If the wound needs drainage the tips from the ligature around the stump are left long to tie the drain down to later. The nearest piece of mesentery available is laid across the stump and pedicle. It is not necessary to hold it in place by sutures. If drainage is required, a narrow strip of gauze inside a split rubber tube is attached to the base of the appendix by means of the ligature ends left long for this purpose. One of them is threaded into a needle, and with it the catgut is carried through one end of the drain, which is tied down to the appendix stump, the free end being brought out of the lower end of the wound; the ligature tie is cut off close to the stump. This method has been in use at St. Vincent's and Bellevue Hospitals for seven years and has given complete satisfaction.

14. **Sensibility of the Peritoneum.**—Beer gives observations tending to support the theses of Meltzer and Kast, recently presented to the New York Academy of Medicine, that the visceral peritoneum is sensitive, notwithstanding the observation of many surgeons to the contrary.

Boston Medical and Surgical Journal.

October 3.

17 *Treatment of Typhoid Fever with Specific Sera, Filtrates and Residues. M. W. Richardson, Boston.
18 *Modern Operations for Complete Removal of the Prostate. A. T. Cabot, Boston.
19 The Reaction of Some Milk Modifications to Rennet. H. Illoway, New York.
20 The Question of Justifiable Homicide. (Continued.) C. G. Cumston, Boston.

17. **Specific Treatment of Typhoid.**—Richardson, as the result of the study of specific therapy in 130 cases of typhoid fever with the non-toxic residue of the typhoid bacillus prepared by Professor Vaughan, concludes that it makes the typhoid process longer, but milder, and, moreover, appears to be effective in the prevention of relapses. The earlier it is used the better. Antityphoid serum was no more effective than the filtrates and residues of Vaughan and was infinitely more expensive.

18. **Removal of the Prostate.**—Cabot gives his reasons, as the result of personal use and comparison of the methods, for regarding the perineal operation as the method of choice. He gives a tabular presentation of 36 cases, in two of which death occurred.

The Lancet-Clinic, Cincinnati.

October 5.

21 A Week in Grant Hospital. L. F. Waufersweller, Columbus.
22 *Two Cases of Obstruction from Bandl's Ring—Case of Placenta Prævia. M. Whitacre, Cincinnati.
23 Concentric Gastric Circles. B. Robinson, Chicago.
24 Limiting Population. B. M. Ricketts, Cincinnati.

22. **Obstruction from Bandl's Ring.**—Whitacre reports two cases of obstructed labor due to Bandl's ring, and one case of placenta prævia in which the points of interest were, (1) the frightful loss of blood, as the first evidence of anything wrong, there being no pains at all; (2) the hardness of the os uteri; and (3) the complete detachment of the placenta.

Annals of Surgery, Philadelphia.

September.

25 *Technic of Direct Transfusion of Blood. G. Crile, Cleveland, Ohio.
26 Arteriovenous Anastomosis. G. Torrance, Birmingham, Ala.
27 *Ligation of the Ductus Arteriosus. J. C. Munro, Boston.
28 *Arteriotomy for Thrombosis and Embolism. F. T. Stewart, Philadelphia.
29 *Technic of Blood-Vessel Suture. J. E. Sweet, Philadelphia.
30 *Endoaneurismorrhaphy. C. H. Frazier, Philadelphia.
31 *Endoanuerismorrhaphy (Matas). J. H. Gibbon, Philadelphia.
32 *Suture of Blood Vessels. S. H. Watts, Baltimore.
33 *Operative Treatment of Acute Abscess of the Lung. B. T. Tilton, New York.
34 *Hypernephroma of the Kidney. R. Well, New York.
35 *Extension of the Field of Treatment of Renal and Vesical Conditions. F. S. Watson, Boston.
36 *Aspects of Calculous Anuria with Special Reference to Performance of Bilateral Nephrolithotomy. F. S. Watson, Boston.
37 *New Combined Lithotrite with Cystoscope. G. Walker, Baltimore.
38 *Telephonic Searcher for Use in the Bladder. A. C. Jacobson, Brooklyn.
39 *Gauze-Ether, or Modified Drop Method. W. E. Ladd and G. Osgood, Boston.

25. **Direct Transfusion of Blood.**—Crile's paper is based on 225 experiments on animals and 32 clinical cases. The method used is transference from the radial artery of the donor to the proximal end of any superficial vein of the recipient's arm. Clotting at the site of anastomosis is eliminated by an ingenious tube, so constructed that intima comes in contact with intima alone, without damage to this structure and without possibility of any foreign body getting into the blood stream. The technic is described. The operation may be done painlessly. The blood lost by the donor is regained in from four to five days. The amount is under the operator's immediate control. The rate of transferring must be carefully gauged because of the risk of overcharging the pulmonary circulation.

27. **Ligation of the Ductus Arteriosus.**—Munro long ago demonstrated the possibility of this operation on the cadaver of new-born children. The triumph of modern aseptic surgery, especially the advances in cardiac surgery, lead him to urge those skilled in the diagnosis of infantile lesions to lend their aid in the discovery of a certain diagnosis in cases of patency of the duct, in order that this conservative measure may be justifiably adopted. Surgical intervention in such cases seems justifiable because, in spite of the fact that some may live to puberty, the chances thereof are small; moreover, this cardiovalvular lesion is relatively speaking superficial. The anomalous vessel is of good size, it can be reached by a short surgical route, and its ligation must be followed by instant and permanent restoration to a normal function of the lungs and arteries. He describes his proposed operation and considers that it would be justifiable in a case with beginning atelectasis, or other evidence of impending death from circulatory disturbances, with a reasonable basis for believing that the duct was open. In any case, it could scarcely materially hasten the fatal issue.

28. **Arteriotomy for Thrombosis and Embolism.**—Stewart confines his considerations to traumatic thrombosis, due to contusion of an artery and to embolism, and describes a case of each form. The chief difficulty is the inability to locate definitely the obstruction by the mere symptoms, which appear to be caused, not by the thrombus itself, or even by the sudden impaction of an embolus, but by the result of the arterial obliteration, i. e., the acute anemia. Thus the pain and other symptoms are referred to the area from which the blood is excluded and not to the seat of obstruction. The operation can be readily performed, Stewart states, without danger of secondary hemorrhage, and he believes it to be indicated particularly when the intima is smooth, as soon as possible after arterial obstruction develops. Even if subsequent clot formation takes place, it may be slow, and by giving the peripheral vessels a chance to dilate, save at least a portion of the limb.

29. **Blood Vessel Suture.**—For the practical surgeon, Sweet draws the following conclusions: In any case in which the anastomosis of a blood vessel is indicated, it should be tried; aneurisms and secondary hemorrhages should not occur. If immediate thrombosis occurs we shall be as well off as though the vessel had been ligated; if gradual thrombosis occurs, we may well hope that such a process will be more favorable to the formation of a collateral circulation than would immediate ligation; and if we should succeed, the literature of surgery would undoubtedly be enlarged and enriched.

30. **Endoaneurismorrhaphy.**—Frazier describes a case of popliteal aneurism in which he performed successfully reconstructive endoaneurismorrhaphy, and a case of femoral sacciform aneurism, having two communications with the parent artery, in which obliterating endoaneurismorrhaphy was performed. Gangrene ensued in the latter case, but the patient recovered after amputation. Frazier considers that had the reconstructive rather than the obliterative type of operation been carried out in the second case, gangrene might not have occurred. He would be disposed, in future, particularly in femoral aneurisms and under favorable conditions, to attempt to reconstruct the artery rather than to depend entirely on the peripheral blood supply.

31. **Id.**—Gibbon discusses the various operations and considers that the Matas operation comes nearer the ideal than any other, and is more generally applicable. He reports a second case of his own, which consisted of a small popliteal aneurism, about the size of a hen's egg. The sac wall was so friable that he could not reef it over, as in the Matas operation, and simply introduced a gauze pad and a few sutures in the muscular structures. The patient, a man, was operated on Nov. 24, 1906, but having progressive kidney and heart lesions, he died of uremia on Jan. 22, 1907, though without any edema or other recurrence of the aneurism being present. The wound had gradually filled up with granulation until there was only a superficial area unhealed. In this case the only advantage of the operation was that the patient was completely relieved of his pain and was able to get out of bed with comparative comfort.

32. **Suture of Blood Vessels.**—Watts gives a historical study of this subject and describes a series of experiments (illustrated with fifteen beautiful half tones), on dogs of various sizes. The results, as well as numerous instances in man re-

ported by various authors, show conclusively that completely divided vessels can be sutured with almost uniform success when the aseptic technic is good. He emphasizes this point, for he considers infection by far the most important factor in producing thrombosis after vascular sutures. The intima can be included in the suture with impunity, the application of the suture being thus greatly facilitated.

33. **Acute Abscess of the Lung.**—Tilton discusses the operative measures in acute abscess of the lung and gives statistics based on twenty cases taken chiefly from the records of several of the large New York hospitals. The statistics show a mortality of 50 per cent., but it must be remembered that cases of four or five months' duration and gangrenous in character are included, all of which cases must necessarily be fatal. He concludes as follows: Cases of lobar pneumonia which run an irregular course suggesting secondary empyema, and in which pus is not obtained by trial puncture of the pleural cavity, should be regarded with suspicion. They should not be permitted to drag along in the medical wards until the favorable time for operating has passed. It is far safer to explore in such cases by resection of one or more ribs, palpation and inspection of the pleura, search for an adherent area, and trial punctures of the lung through the adherent portion. If pus is present within the lung it should be found in this way at the time, or may be evacuated later spontaneously through the wound. If pus is not present, no harm has been done by the simple operative procedure at a time when the patient's general condition is good.

34. **Cystic Hypernephroma.**—Weil describes a case, from which, in conjunction with a number of other cystic tumors that have been described, presenting exactly similar characteristics and having similar hypernephromatous remnants in their wall, indicate that the cyst-hypernephroma, consisting of a single very large cyst with hardly discoverable remnants of the tumor tissue in its wall, must be recognized as one of the pathologic varieties of that class of tumors. The occurrence of adrenal tissue in the walls of these cysts seems to indicate with certainty their origin from adrenal rests; but he considers, for reasons stated, that these rests incorporated in the kidney have gone on, in the cases described in his paper, to the formation of cystic adenomata and not of hypernephromata, and have then eventually burst into the renal pelvis and induced dilatation of the entire organ. He collects all the cases, seven in number, that he can discover in the literature, and discusses their clinical features, diagnosis and treatment. Removal is simple enough, is a radical cure, and should be performed in every case in which operation is not contraindicated by age or condition. Drainage or repeated tapping should never be resorted to.

35. **Permanent Drainage of Kidney.**—Watson details the great advantages, as a palliative measure and as a step preliminary to the total extirpation of the bladder in certain cases of vesical tumor, that would ensue from the creation of a permanent renal fistula, and the effect of those advantages in modifying or enlarging the field of treatment in cases of renal and vesical disease. He describes a contrivance whereby the constant soaking of the clothing, etc., with urine, and the unpleasant odor thereof in a renal fistula, are entirely overcome. It consists essentially of a hard rubber cup-shaped shield through which the drainage tube from the kidney discharges the urine into a light metal receptacle, having a rubber tube attached to the bottom for discharge of the urine. The whole is fastened to the body by two elastic bands.

36. **Bilateral Nephrolithotomy.**—Watson urges the performance of bilateral nephrostomy at one sitting in cases of bilateral renal calculus without anuria, as well as in those with it, unless the patient's condition is such as to make the longer time required for opening the two kidneys an obviously improper danger to which to submit him. He reports five cases.

37. **Combined Lithotrite with Cystoscope.**—Walker describes and illustrates an improved instrument, so arranged that one looks directly between the jaws, instead of having one blade interposed between the prism and the object to be seen. It is strong enough to stand a strain of 175 pounds, amply sufficient to crush any stone except those of the hard oxalate type.

38. **A Telephonic Bladder Searcher.**—Jacobson describes and illustrates a Thompson searcher attached to the front of a telephone transmitter through the medium of a plugged joint, wherewith the transmission to the ear of sounds produced with the end of the searcher by stones or other objects, is actually microphonic, and so delicate that the character of varying surfaces may be nicely differentiated.

39. **Gauze-Ether Anesthesia.**—Ladd and Osgood record a modified method of drop etherization. A square pad of gauze twelve layers thick, and sufficiently large to cover the patient's mouth and nose, extending well down over his cheeks, is laid directly on the patient's face. Ether is then dropped on this gauze by means of a drop bottle consisting simply of an ordinary bottle with a small wick inserted through a slit in the cork. Ether having been dropped slowly for about one minute on this pad of gauze described above, another similar pad is laid on the first, and the rapidity of the drops is increased and continued until the patient becomes thoroughly anesthetized. It is very important that the ether should be gradually administered in this way, and not poured on in large quantities at a time. The advantages of this method are as follows: 1. It is less disagreeable to the patient and does not cause suffocation. 2. Postoperative vomiting is reduced from nearly 100 to 32.5 per cent. 3. There is quicker recovery of consciousness. 4. There is reduction of postoperative acetonuria from 88.5 to 26 per cent.

Journal of Nervous and Mental Diseases, New York.

September.

40 *Have the Forms of General Paresis Altered? L. P. Clark and C. E. Atwood, New York.
41 Symptomatology of Lesions of the Lenticular Zone. C. K. Mills, and W. G. Spiller, Philadelphia.

40. **General Paresis.**—Clark and Atwood ask whether or not the forms of general paresis have altered, and answer that only three types are needed for analysis of paresis, and variations between types of late years are less great than was formerly held. The real, but slight variations in types of depressed and simple dementing paresis are due to a better system of treatment and earlier diagnosis. The matter is not merely academic, for the different types of paresis have a widely dissimilar prognosis. From a study of 3,000 cases they decide that paresis is essentially a disease in which the grandiose type predominates in about 70 per cent. of all cases; the dementing form occurs next, with a frequency of 20 per cent.; while the depressive form is found in only about 10 per cent.

Central States Medical Monitor, Indianapolis.

September.

42 *Fused (Horseshoe) Kidney. B. Robinson, Chicago.
43 The Medical School of Old Laval. G. T. Palmer, Springfield, Ill.
44 *Poisoning from Suprarenal Principle. G. Link, Indianapolis.

42. A more extensive article on the subject by the same author appeared in the *Lancet-Clinic*, June 15, 1907.

44. **Poisoning from Suprarenal Principle.**—Link has employed this substance about 500 times, usually in combination with cocain or eucain, in amounts varying from 1 to 10 or 20 minims. He reports the case of a male patient, aged 26, weighing 190 pounds, heart and lungs normal, in whom, to arrest bleeding caused by manipulation of the urethra to render a stricture passable, 10 minims of a 1/1,000 solution of suprarenal principle were injected through an Ultzman's instillator. The patient immediately complained of pain in the stomach and a condition of profound shock supervened. He complained of air hunger, vomited, and lapsed into syncope. As the pulse became slower and finally disappeared, and death seemed imminent, 1/30 grain of strychnin and 1/100 grain of nitroglycerin were given hypodermically. In ten minutes the radial pulse began to return and within an hour the patient left the office unassisted. Next day progressive dilatation of the stricture was done without the aid of the suprarenal preparation.

Iowa Medical Journal, Des Moines.

September.

45 *Surgical Aspect of Digestive Disorders. A. L. Wright, Carroll.
46 Surgical Tuberculosis in the Abdomen. J. L. Crawford, Cedar Rapids.

47 Enlarged Prostate and the Perineal Route. J. C. Hancock, Dubuque.
48 Conservative Surgical Treatment of Hypertrophy of the Prostate Gland. J. E. Summers, Jr., Omaha, Neb.
49 Bronchopneumonia. J. H. Maynard, Adair.
50 Morphin and Hyoscin in General Anesthesia. W. J. Bradley, Cedar Rapids, Iowa.

45. **Surgery of Digestive Disturbances.**—Wright considers the progress of gastric and intestinal surgery, and concludes that it is not good treatment to stand in the way of early operative interference in digestive disturbances that do not yield to medical treatment in a reasonable length of time.

Louisville Monthly Journal of Medicine and Surgery.

September.

51 *Typhoid Fever. J. B. Marvin, Louisville.
52 *Exploratory Laparotomy. H. H. Grant, Louisville.
53 Puerperal Infection—Dermoid Cyst. L. Frank, Louisville.

51. **Typhoid Fever.**—Marvin says that many of the symptoms of typhoid fever are not due to the specific bacillus, but to the associated bacilli, especially *Bacillus coli communis* and streptococcus, which may give rise to peculiar and far-reaching manifestations over and above those caused by the *Bacillus typhosus*. Of the three causes of death in uncomplicated typhoid fever, hemorrhage, perforation and heart failure, we are more accustomed to dread hemorrhage and perforation, but heart failure is a most potent factor in the death rate. In typhoid fever, more frequently than in any other acute infection, we observe a slow pulse with rising temperature; it is therefore far more important to watch the heart, especially the second sound than to count the radial pulse. Digitalis and strychnin are in Marvin's opinion overworked, for digitalis has no part in the treatment of the heart which is not organically affected. In cases in which there is an increasing pulse, feeble cardiac contraction, and all the phenomena of cardiac failure, he has found that camphor in sterile oil in half grain or grain doses acts well. Hoffmann's anodyne in teaspoonful doses is a rather disagreeable remedy, but a quick and potent agent for tiding over temporarily. He knows of no safe and at the same time effective intestinal antiseptic.

52. **Exploratory Laparotomy.**—Grant points out the danger in abdominal conditions of delayed diagnosis and expectant treatment; also the dangers of exploratory laparotomy, and contrasts the two. The questions that confront the surgeon are: What is the matter with the patient? Is the condition amenable to surgery? When in doubt is it possible to determine these points without jeopardizing the patient's welfare through the avenue of infection herein discussed? He implies an affirmative answer to this last question.

Journal of the South Carolina Medical Association, Greenville.

September.

54 The Doctor as a Publicist and a Sanitarian. W. J. Burdell, Lugoff.
55 *Successful Treatment of Apparently Hopeless Blindness. W. Porcher, Charleston.
56 Mystery and Medicine. H. K. Aiken, Laurens.
57 Significance of Hemorrhage from the Female Genital Tract. de Saussure, Charleston.
58 Physiology of Nutrition and Rational Medication. J. Burke, Manitowoc, Wis.
59 Care of the Infant. T. L. W. Bailey, Clinton.

55. **Successful Treatment of Apparently Hopeless Blindness.**—In this preliminary report Porcher collects the literature of cases of apparently hopeless blindness more or less successfully treated with electricity, large doses of mercury, revulsives, etc., and adds a case of his own, that of a woman who had an old iridochorioiditis, in whom a long administration of the iodids had given rise to some benefit, but without complete restoration of sight. Mercurials to partial salivation, followed by iodids, were administered; the direct galvanic current was also used persistently for ten minutes daily until the sight was very much improved. He has also a man under his care, from whom both lenses have been completely removed, the left pupil being entirely closed by inflammatory exudates and the right pupil open but filled by lymph, that eye possessing only light perception. The patient is still under treatment.

Journal of the Medical Society of New Jersey, Orange.

September.

60 When and When Not to Operate in Ruptured Extrauterine Pregnancy. J. S. Laer, Camden.
61 *Diet in Pulmonary Tuberculosis. T. Senseman, Atlantic City.
62 *Premature Separation of the Placenta. I. W. Martindale, Camden.

61. **Diet in Pulmonary Tuberculosis.**—Senseman emphasizes the following points: 1. It is not the amount of food ingested, but the amount assimilated, that is of importance. 2. Our efforts should be directed toward improving the digestion and allowing the appetite to follow of its own accord. 3. There is a pivotal point in each patient's digestive ability which should be ascertained. 4. It is important to realize that each patient has a normal weight beyond which we should not endeavor to force him. 5. Once this normal weight is reached, that diet which will enable him to maintain it is sufficient. 6. So long as the patient can maintain this normal weight he has nothing to fear from the disease tuberculosis.

62. **Premature Separation of the Placenta.**—Martindale reports a fatal case of premature separation of the placenta in a woman seven months' pregnant. The woman was in a state of collapse when first seen. A dead child was delivered without difficulty, and as the child passed the introitus the placenta was swept out with a tremendous gush of blood, showing that there had been complete separation of that structure. On examination of the placenta, there was found a large area of calcareous degeneration, which is supposed to have been the cause of the placental separation. The patient died.

Southern California Practitioner, Los Angeles.

September.

63 Suggestions Regarding the Use of Tuberculin. C. C. Browning, Monrovia, Cal.
64 *Medical Aspect of Gall-Bladder Infections. D. Fulton, Los Angeles.
65 Manual Therapy—Its Rationale and Some Indications. J. T. Rankin, Los Angeles.
66 Climatic Advantages of Pecos Valley, New Mexico. C. F. Beeson, Roswell, N. M.
67 *The Physician's Civic Responsibilities. G. H. Kress, Los Angeles.

64. **Medical Aspect of Gall-Bladder Infections.**—Fulton says that the expert medical treatment of the diseases of those organs centering around the duodenum is as essential as expert surgery, but unfortunately the standard of medical treatment in this country falls below the standard of surgical treatment. He emphasizes the importance of paying greater attention to accuracy in diagnosis and believes that ultimately when methods of investigation and diagnosis are refined far beyond present standards, and we know more of chemical pathology, gallstone formation, and infective processes of the biliary passages, these conditions will require less surgical interference than at the present time.

67. **The Physician's Civic Responsibilities.**—Kress reviews the profession's care of the indigent sick, its altruistic attitude toward medical discoveries, its efforts to prevent disease, all so badly requited by the world at large, and attributes that condition to the fact that the profession has failed to take account of, and to bring into play, the legitimate side factor which must be a necessary part of the demonstration of altruistic principles and practice. If laymen are to realize the existence of such altruism, there must be less professional isolation; medical men must not allow the world to watch their petty animosities and misunderstandings, and to construe them as major instead of minor issues, but must put the best front forward. The remedy is medical organization, through which physicians learn to greet one another more often, to know one another better, and to come together on points of variance, and he closes with the statement that the scientific, social, and material advancement of the profession will in future centralize itself around the county, district, state, and national societies. Outside of organizations in the specialties there is little need of other medical societies. He holds up the Southern California Medical Society as an excellent example of a district union.

Washington Medical Annals, Washington, D. C.

September.

68 The Nature of Insanity. W. A. White, Washington.
69 Prognostic Significance of the Widal Reaction. H. C. Macatee, Washington.
70 The Question of Operation in Chronic Simple Glaucoma. W. H. Wilmer, Washington.

71 Case of Fllatow-Dukes' or the Fourth Disease. G. W. Wood, Washington.
72 Case of Perforating Gastric Ulcer. C. S. White, Washington.
73 Exophthalmic Goiter. A. A. Wilson, Washington.
74 Points in Common in Clinical Histories of Exophthalmic Goiter and Myxedema. P. S. Roy, Washington.
75 Abdominal Pregnancy. D. G. Lewis, Washington.

Annals of Gynecology and Pediatry, Boston.

September.

76 Recent Public Health Legislation. F. G. Wheatley, North Abington, Mass.
77 Interesting Manifestations of Disease in Childhood. A. W. Fairbanks, Boston.
78 Aural Diseases of Children. C. R. C. Borden, Boston.
79 Suppurative Middle-Ear Diseases of Infancy and Childhood. S. J. Kopetzky, New York.

Albany Medical Annals.

September.

80 Lionel Wafer, Surgeon and Buccaneer. G. Blumer, New Haven, Conn.
81 Coxa Vara in Distinction from Hip-Joint Disease and Congenital Dislocations. A. Holding, Albany, N. Y.
82 Seat and Significance of Abdominal Pain. J. Meyers.
83 Etiology and Production of Cancer. D. Kidd.

The Medical Fortnightly, St. Louis.

September 25.

84 Marginal Tattooing as Means of Adding to the Apparent Width of the Lips. C. C. Miller, Chicago.
85 Arteria Ileo-Colica. B. Robinson, Chicago.
86 Orthopedic Surgery in General Practice. J. W. Cokenower, Des Moines, Iowa.

West Virginia Medical Journal, Wheeling.

September.

87 Shock. C. S. Hoffman, Keyser.
88 Epilepsy. (Concluded.) J. R. Bloss, Huntington.
89 Value of the Roentgen Ray. H. H. Young, Charleston.
90 Scope of Treatment of Acute Pelvic Infections in Women by the General Physician. J. W. Bovée, Washington, D. C.
91 The Trained Nurse and the Importance of Her Proper Training. W. S. Link, Parkersburg.
92 Is the Profession of Medicine Overcrowded? W. T. Booher, Bethany.

The Military Surgeon, Carlisle, Pa.

September.

93 Care of Gunshot Wounds of the Abdomen. G. T. Vaughan.
94 New Mosquito Bar which Can be Used with the Shelter Tent. E. B. Vedder, U. S. Army.
95 Epidemic of Cerebrospinal Meningitis Occurring in the United States Naval Training Station. (Concluded.) N. J. Blackwood, M. S. Guest, J. H. Iden and J. L. Neilson, U. S. Navy.
96 Feeding of Troops En Route. W. S. White, I. N. G.
97 Tropical Diseases as They Exist in the Philippines. P. M. Ashburn and C. F. Craig.
98 Statistical Methods in Therapeutics in Military Service. W. F. Arnold, U. S. Navy.
99 Milk and Coffee Extract and Its Use in the Russian Army. W. F. de Niedman, U. S. Army.

Virginia Medical Semi-Monthly, Richmond.

September 13.

100 Conservative Treatment of Compound Fractures. H. G. Nicholson, Charleston, W. Va.
101 Arteriovenous Anastomosis. G. Torrance, Birmingham, Ala.
102 Renal Stones, Renal Colic, Symtomatology. W. T. Grove, Eureka, Kan.
103 *Surgical Treatment of Excessively Thick Lips. C. C. Miller, Chicago.
104 Principles of Surgery. (Concluded.) S. McGuire, Richmond.

103. This article also appeared in the *Lancet-Clinic* Sept. 28, 1907.

Pacific Medical Journal, San Francisco.

September.

105 Leprosy Transmission by Insects and Fish. A. S. Ashmead, New York.
106 Pilocarpin. R. J. Smith, Schenectady, N. Y.
107 How Shall We Stamp Out Tuberculosis? W. H. Mafield, St. Louis.

Journal of the Missouri State Medical Association, St. Louis.

September.

108 Present Status of Treatment of Malignant Disease by the Roentgen Ray. J. N. Scott, Kansas City.
109 Response to Address of Welcome, Missouri State Medical Association. W. B. Outten, St. Louis.
110 Autointoxication. J. Hanks, Brashear.
111 *Blood Pressure and Its Relation to Disease. F. W. Froehling, Kansas City.
112 President's Address, North Missouri Medical Association. W. P. Rowland, Bevier.

111. Abstracted in THE JOURNAL, Sept. 7, 1907, p. 877.

Indiana Medical Journal, Indianapolis.

September.

113 Foreign Bodies in the Eyeball. F. A. Morrison, Indianapolis.
114 Eyestrain. J. L. Thompson, Indianapolis.
115 Case of Acute Suppuration of the Middle Ear. J. J. Kyle, Indianapolis.
116 Heredity an Important Factor in the Production of Mental Diseases. J. J. Hoffmann, St. Louis.

The Ophthalmic Record, Chicago.

September.

117 Extensive Disease of the Retinal Vessels. G. E. de Schweinitz and H. Pancoast, Philadelphia.
118 Congenital Coloboma of the Upper Lid with Symblepharon. D. Coggin, Salem, Mass.
119 Self-retaining Lid Plate. N. M. Black, Milwaukee, Wis.

Colorado Medicine, Denver.

September.

120 Dietetics. C. D. Spivak, Denver.
121 Has Regular Medicine Kept Pace with the Art of Healing? J. K. Miller, Greeley.
122 The Successful Obstetrician. D. V. Meiklejohn, Somerset.
123 Bacteriologic Diagnosis of Diphtheria. W. C. Mitchell, Denver.
124 The Attitude of General Practitioners to Obstetrics. E. E. Evans, Fort Morgan.
125 The Physician in the Public School. M. Black, Denver.

FOREIGN.

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

British Medical Journal, London.

September 21.

1 Medical Cases in the Meath Hospital, Dublin. J. Craig.
2 Case of Bradycardia with Epileptoid Attacks. A. E. R. Weaver.
3 Operation for Embolus. W. S. Handley.
4 Aneurism of the Foot. A. R. Tweedie.
5 *Epidemic Cerebrospinal Meningitis with Typhoid Agglutinins in the Blood. W. S. Symmers and W. J. Wilson.
6 *Case of Aneurism of the Abdominal Aorta without Symptoms. T. G. S. Leary and C. Ellis.
7 Case of Cerebellar Hemorrhage. H. M. Inglis and P. C. Fenwick.
8 Diseases and Displacements of the Testicle. D. Power.
9 *Torsion of the Testicle. R. Howard.
10 *Organotherapy. W. E. Dixon.
11 *Malformations of the Penis. G. H. Edington.
12 Pneumococcic Arthritis in Children. C. A. R. Nitch.
13 *Acute Nephritis in Children and Its Results. A. F. Voelcker.
14 *Physiologic Aspect of Acute Nephritis in Children. A. W. Sikes.
15 *Eye Changes in Nephritis in Children. S. Stephenson.
16 *Unsuspected Nephritis in Septic Infections. T. Thompson.
17 *Diagnostic and Therapeutic Value of Lumbar Puncture. E. F. Buzzard.
18 *Id. F. E. Batten.
19 *Id. J. G. Forbes.
20 *Prococious Development. R. L. Langdon-Down.
21 *Precocity in Relation to the Ductless and Accessory Genital Glands. L. G. Guthrie.
22 *Care of Tuberculous Children. T. N. Kelynack.
23 Depression of the Skull, Operation, Recovery. H. W. Thomas.
24 Theosin Sodium Acetate. W. F. Colclough.

5. **Typhoid Agglutinins in Cerebrospinal Meningitis.**—Symmers and Wilson report a case, apparently an example of epidemic cerebrospinal meningitis, in which the serum gave a positive Widal reaction in a dilution of 1 to 200 and in which the *Bacillus typhosus* had no part in the infection.

6. **Abdominal Aneurism Without Symptoms.**—Leary and Ellis report the case of a woman, aged 60, with what appeared to be an inoperable rodent ulcer. Incidentally, an abdominal swelling was observed, which had been there for years, but to which the patient never gave a thought, as it had never caused any symptoms either of discomfort or pain. The patient was of a cheery temperament, but cachectic in appearance and markedly asthenic. The only circulatory disorder appeared to be cold feet occasionally; spinal reflexes were active; there were no pressure symptoms. On the death of the patient the abdomen was opened over the tumor, and an aneurism measuring vertically about four inches and anteroposteriorly two inches was found. It had evidently been formed by the giving way of the inner coat of the aorta at its anterior aspect.

9. **Torsion of the Testicle.**—Howard reports the case of a boy, aged 13, whose right testicle had been replaced in the abdomen and the left brought down and fixed in the scrotum. Some two years later it was found that the retained testicle which had been fixed in the scrotum had disappeared. An incision was made through the old abdominal scar and the replaced right testicle was removed on account of torsion. The author considers that in torsion of the partially descended testicle removal of the organ as soon as convenient is indicated. In the fully descended testicle, however, an attempt should be made to untwist the cord by supporting the testicle in the hand and twisting from within outward. If this increases the pain and the testicle will not stay in the new position, it should be twisted from without inward.

10. **Organotherapy.**—Dixon reviews the recent history of organotherapy from the time of Brown-Séquard's personal ex-

periments, and concludes that up to the present no reliable evidence is forthcoming to show that orchitic injection has any action other than that due to its nucleoalbumin, a substance which can not be liberated into the blood stream. He regards all experiments so far made as valueless, owing to the non-elimination of the psychical effect and to the absence of adequate control experiments. Poehl's spermin he considers a degradation product allied to and having the same action as choline. He does not doubt the existence of an internal secretion of the testis, however, but asserts that its nature is as yet unknown. It is probable that in all vertebrates, or at all events in all mammals, the respective internal secretions are of the same nature, but the principle of an internal secretion from the genital organs is probably even wider than that of the other known secretions. He considers that the active constituent of the secretion does not occur free in the testis, but, like other internal secretions, requires the presence of some other substance before it becomes of value. He also directs attention to the relationship, the nature of which is at present unknown, between the suprarenal glands and the reproductive system.

11. **Malformations of the Penis.**—Edington considers malformations of the penis in four groups: 1. Hypospadias, glandluar, penile, and perineal; 2, conditions allied to hypospadias; 3, malformations of the raphe alone, and 4, torsion of the penis. His conclusions are as follows:

1. Glandular hypospadias is the commonest form of this malformation.
2. Malformation of the raphe is frequently present in glandular hypospadias, but either malformation may occur independently.
3. Phimosis occurs in a considerable proportion of the cases of glandular hypospadias.
4. Malformation of the raphe may exist alone, but it usually indicates the presence of other deviations from the normal.
5. Torsion of the penis is always associated with malformation of the raphe.
6. Hernia or hydrocele occurring in a case of torsion does not seem to have any influence in the production of the deformity.
7. The deviation of the raphe has probably no effect on the form of the urethra.

Numerous cases are reported and illustrated.

13. **Acute Nephritis in Children.**—Voelcker limits his consideration of acute nephritis to cases evidenced by certain constitutional symptoms, of which pyrexia, vomiting, and headache are most common, and edema and alterations of the urine the most constant and obvious physical signs. He excludes from consideration cases of urinary disturbance without general constitutional symptoms. He takes the age limit of twelve as conventionally fixing the term of childhood. According to his postmortem experience, in acute inflammation of the kidneys, both kidneys seemed equally affected, markedly contrasting this condition with pneumonia, in which either one lung only or one much more than the other is affected. The origin, therefore, must be looked for in some irritant which is brought equally and simultaneously to the two kidneys, and must, consequently, be some material circulating in the blood and acting as a renal irritant. Acute nephritis is found following three sets of conditions: 1. Alterations, temporary or permanent, in the skin, interfering with its excreting functions; 2, the ingestion of certain irritants; 3, in the course of certain acute infections. There are also cases of unknown origin. He analyzes 107 cases of acute nephritis, from ten years' records of the Middlesex Hospital, and finds the frequency to be much greater than is generally acknowledged in text-books. While scarlet fever nephritis is more common in the first ten years of life, he does not consider it very fatal in children. He comments on the symptomatology, the urine, the duration, and the results of the disease and enumerates the following conditions simulating nephritis, which may give rise to errors in diagnosis: Renal infarction in valvular disease of the heart, paroxysmal hemoglobinuria, tuberculous or other new growths in the kidney. The edema of renal disease may be simulated by the edema which occurs with acute diarrhea, with chronic colitis, with endocarditis, pericarditis, urticaria, angioneurotic edema, tuberculous bronchial glands, purpura, leukemia.

14. **Id.**—Sikes considers the physiologic aspect of acute nephritis in children. The alterations in the general metabolism caused by kidney disease are not so obvious as might be expected, and depend largely on the functioning of the stomach and intestines. The degree of albuminuria is important, in view of the importance of keeping up the nitrogenous equilibrium and also of giving the diseased organ as little to do as possible. A more liberal proteid diet is now recommended than was formerly allowed. The occasional extraordinary increase of blood pressure has never been explained. while severe gastrointestinal disturbances often indicate the onset of uremia, they may occur in children, at the onset of any acute disorder. In mild cases of nephritis, the relations of the sodium chlorid to the tissues in the urine may be the same as in health. The free drinking of water will not alter the tendency of the kidneys to excrete only urine of definite molecular concentration and will do harm in other ways, e. g., development of edema, in acute cases. He considers it an open question in chronic cases how much of the polyuria may be due to the patient's drinking freely. With regard to the significance of the proteid quotient, he thinks fresh and accurate observations are called for. Urea is diminished, uric acid varies little, and there is little difficulty in its excretion or in that of the purin bases. In examining the urine an accurate estimation of the relation of albumin to the globulin is desirable. Folin's method is preferred for estimating the urea, as also is his method of estimating kreatinin.

15. **Id.**—Stephenson considers the eye changes in nephritis in children, and arrives at the following conclusions:

1. Ocular complications are uncommon in cases of acute nephritis, and that when they occur, they usually assume the form of an inflammation of the optic papilla.
2. Retinal complications are apparently much less frequent in parenchymatous than in interstitial nephritis.
3. The ophthalmoscopic signs do not appear to differ either quantitatively or qualitatively in the two forms of chronic nephritis.
4. Detachment of the retina may occur as a complication of retinitis in childhood.
5. The significance as regards duration of life is as unfavorable in the renal retinitis of children as in that of adults.

16. **Id.**—Thompson discusses unsuspected nephritis in septic infections, in which it is common; it is almost constantly present in septicemia. In septic endocarditis, chronic nephritis may be overlooked, and he reports the case of a young girl in whom great albuminuria, without any of the ordinary signs of acute nephritis, supervened a fortnight after an operation for double dacryocystitis, the urine having been normal at the time of admission to hospital. In another case similar condition followed on suppuration in a radical hernia cure. The occurrence of an unsuspected nephritis in a previous acute septic infection may help to explain some of those cases of chronic interstitial nephritis which occur in children and young people.

17. **Lumbar Puncture.**—Buzzard considers the technic of the operation, its general indications and contraindications, the physical and chemical, the cytologic and the bacteriologic data in the use of cerebrospinal fluid as an aid to diagnosis, and also the therapeutic value of lumbar puncture. His conclusion is that lumbar puncture as a diagnostic measure has undoubted claims; as a therapeutic measure it is justifiable in many cases of meningitis, and probably beneficial in uremia, but further experience is required in order to decide its exact position as a remedial agent.

18. **Id.**—Batten summarizes the results of 42 cases occurring between the ages of 2 months and 12 years. The cases were divided into 12 groups: (1) Tuberculous meningitis, (2) cerebrospinal meningitis, (3) pneumococcal and other forms of meningitis, (4) convulsions, (5) intracranial tumor, (6) hydrocephalus, (7) cerebral diplegia, (8) congenital syphilis, (9) spinal caries, (10) poliomyelitis, (11) retraction of the head, and (12) acute ataxia. A large excess of lymphocytes was a constant feature in tuberculous meningitis, the finding of the tubercle bacilli in the fluid was the important factor in diagnosis; no therapeutic value, he declares, should be attached to lumbar puncture in this disease. In cerebrospinal meningitis, diagnosis rests on a high polymorphonuclear count, and the presence of the *Diplococcus intracellularis*. Puncture also relieves certain of the symptoms. While of value in pneumococco-meningitis, a perfectly normal cerebrospinal fluid might be obtained within a week of death from widespread cerebrospinal meningitis. In congenital syphilis with nervous affection, a high lymphocyte count was found; in infantile convul-

sions, intracranial tumor, cerebral diplegia, poliomyelitis, and acute ataxia, no diagnostic or therapeutic value could be attached to lumbar puncture. Batten would express no opinion regarding hydrocephalus and spinal caries. On the whole, the diagnostic value of lumbar puncture is not great, he says, and it possesses but little therapeutic value.

19. **Id.**—Forbes' article is based on the examination in 130 cases: Fifty tuberculous, 36 meningococcal, 16 pneumococcal, streptococcal and syphilitic cases, and the remaining 28 in various conditions. He concludes that in the majority of cases from the positive and negative aspects the operation of lumbar puncture provides a means of diagnosis of great value.

20. **Precocious Development.**—Langdon-Down says that the general medical view, based rather on extreme and complicated cases and a loose use of terms leading to confusion of ideas, has generally regarded precocity as an almost unmixed evil. He points out that natural ability follows the natural law of variation from the mean, and that there is no reason to suppose that this is not also true of precocity; that in the broadest sense of the word precocity is an innate condition based on heredity, and as such it should not be regarded as abnormal in a strict sense. It has been shown that from the precocious variations, we draw the men who do the world's best work, and that the highest degrees of genius have been in the highest degree precocious. He warns against confusing this inborn advantageous variation, however, with the acquired result of forced culture. There is some evidence to show that precocity, intelligence and physical development go together.

21. **Precocity and the Ductless Glands.**—Guthrie arrives at the following conclusions:

1. Precocious physical development, sexual and somatic, may be due to tumors or to hypertrophy of the pituitary and pineal glands, of the adrenal cortex and accessory genital glands.
2. The opposite condition—namely, infantilism, or stunted growth, loss or non-development of sexual attributes—may depend on atrophy or destruction of function of one or other of the organs named.
3. Hypersecretion on the part of one or other of these glandular structures, in the first case, and hypersecretion in the second, may account for the opposite conditions described.
4. Precocious development (sexual and somatic) may in some cases be unassociated with any obvious lesion of glandular organs.
5. There is reason to suppose that a correlation of function, or some mutual check action, exists between the glands which have been mentioned. It is also probable that the thyroid and thymus glands are intimately connected with the phenomenon of physical and sexual development.
6. Two distinct types of precocious development—namely, the obese and the muscular—are associated with tumors or hypertrophy of the adrenal cortex.
7. The obese type may occur in both cases, but the muscular type seems to be confined to the male sex.
8. Premature hirsuties occurs in practically all cases of premature physical development, but is not necessarily associated with other signs of sexual maturity.
9. Tumors of the adrenal cortex which occasion precocious development are of mesothelial origin, and act by inducing multiplication and overgrowth, and therefore hypersecretion of the cerebral parenchyma cells.

22. **Care of Tuberculous Children.**—Kelynack insists on the importance of anticipating the development of tuberculosis in children and condemns the system of mixing children and adults in the same sanatorium. Special sanatoriums for children are urgently required. A marine situation is, on the whole, less advantageous for the majority of patients than a high and dry sheltered inland station.

The Lancet, London.

September 21.

25 *Gastrojejunostomy and Its Physiologic Effects. H. J. Paterson.
26 *Relation of Polymastia to Multiparous Birth. T. Iwai.
27 *Mucous Colitis. E. H. Harrisson.
28 Malignant Endocarditis (Diphtheritic) with Terminal Cerebrospinal Symptoms. J. T. C. Nash.
29 Case of Double Optic Neuritis. C. Higgens.
30 Case of Land Scurvey. J. B. Dawson.
31 Leucocytozoon Found in the Blood of the Red Grouse (Lagopus Scoticus). C. G. Seligmann and L. W. Sambon.
32 Clinical Significance of Allochiria. E. Jones.
33 Bombay Spirillar Fever. F. P. Mackie.

25. This article was published in THE JOURNAL, Aug. 24, 1907, page 657.

26. **Polymastia and Multiparous Birth.**—Iwai refers to his recent article on polymastia in Japan, abstracted in THE JOURNAL, Oct. 12, 1907, page 1315, and draws the following conclusions:

1. It is probable that there is a relation between polymastia and multiparous birth.
2. It is probable that those who have supernumerary mammary glands have a tendency to become more frequently pregnant than those who have not.
3. The fact that the instances of multiparous birth increase in women with the number of their conceptions and the development of their age coincides well with the opinions given hitherto by several eminent scholars.
4. The instances of multiparous birth are found more among people of the lower class, and especially among those of a low order of intelligence.

27. **Mucous Colitis.**—Harrisson, in a thesis for the M.D. degree of Cambridge University, draws his conclusions from a careful study of 25 cases, excluding all in which there have been signs of ulceration of the colon, or any other local condition that may be mistaken for mucous colitis. The latter disease Harrisson defines as combined secretory and motor neurosis of the large intestine, with abdominal pain of two kinds, a more or less constant aching in the lower abdomen, and a paroxysmal colicky pain immediately preceding and always relieved by defecation. He goes at length into the symptomatology, diagnosis, prognosis and treatment. The latter resolves itself into treatment of the attack and removal of the cause. Pain and constipation are the chief symptoms and they are to be combated by aperients, preferably castor oil or calomel, and enemata, especially high irrigation of the colon. Rest in bed, the usual external anodyne measures to the abdomen are indicated for the pain. Internal use of anodynes is to be avoided. He refers to the two operations, a lateral anastomosis between ileum and sigmoid, with the insertion of a catheter to a like opening in the cecum, as in gastrostomy, whereby the colon is rested and irrigation may be performed; and the bringing of the appendix to the surface, suturing it in position, and removal of its distal extremity, thus creating an appendicular fistula in the abdominal wall, serving the purpose of the catheter in the other operation. The results of the first kind of operation have been only temporarily satisfactory; those of the second, owing to its recentness, can not be at present known. Diet must be carefully attended to, and regular evacuation secured. Abdominal massage is beneficial, high frequency currents have not given satisfactory results. Intestinal antiseptics are worse than useless. Massage and hydrotherapy are recommended in the treatment of the nervous symptoms.

Clinical Journal, London.

September 4.

34 Causes and Treatment of Subjective Noises in the Ear. E. S. Yonge.
35 Chronic Urethritis. J. Pardoe.

September 11.

36 Cancer of the Rectum. H. Cripps.
37 Chronic Suppuration of Middle Ear. W. H. Bowen.

Medical Press and Circular, London.

September 11.

38 Educational Number.

September 18.

39 Cancer of the Rectum. R. A. Stoney.
40 *Justification of Artificial Dilatation of the Cervix. R. Jardine.
41 *Contagious Diseases and School Attendance. S. Murphy.
42 Neurasthenia. M. Marc.

40. Abstracted in THE JOURNAL, Sept. 21, 1907, page 1058.

41. **Contagious Disease and School Attendance.**—Murphy cites facts to support the view that prevalence of disease is maintained by inconspicuous cases or by cases of persons who, having no symptoms of their own, are merely carriers with the ability to infect susceptible persons. He considers the question of the exclusion of children from schools and from infected homes, the exclusion of particular scholars versus the closing of schools, the age of attendance, the question of prophylactic inoculation, and the opportunity afforded for dealing with conditions of health. According to Murphy, the difficulty arising out of compulsory school attendance and the question of infectious diseases is being met in England by the constitution of the health authority as the education authority.

Journal of Obstetrics and Gynecology of the British Empire, London.

September.

43 The "Byrth of Mankynde." (To be continued.) J. W. Ballantyne.
44 *Extrauterine Pregnancy in Madagascar. C. F. A. Moss.
45 *Treatment of Occipito-posterior Presentations. D. Hardie.

46 Unusual Case of Elephantiasis of the Vulva. J. Bland-Sutton.
47 Fibromyomatous Uterus Weighing Over Seven Pounds Removed from Woman Aged Twenty-two. H. R. Spencer.
48 Early Ectopic Gestation with Misleading Symptoms. J. C. H. Leicester.

44. **Extrauterine Pregnancy in Madagascar.**—Moss says that the Malagasy women are mostly short in stature and delicate of frame. They menstruate about 12, and frequently marry between 12 and 14, with a view to obviating moral lapses likely to cause disease and sterility. The great amount of immorality explains the fact that endometritis, chronic pelvic peritonitis and inflammatory infections of the tubes and adhesions are all very common. Moss reports his results in 67 cases of extrauterine pregnancy, occurring in 15 years, entirely in his own practice among a small population. When serious bleeding is proceeding, he urges operation at once, whether one suspects rupture or tubal abortion. The continuance of pregnancy, though largely impossible, should be suspected when no decrease in size of swelling and continual alteration in the shape of the abdomen without adequate cause are found, after two weeks' watching. In advanced cases, the author's experience has been on the side of delay until the placenta is likely to be readily separable. Of the 67 cases, 17 were fatal; 13 when operation was performed, and 4 when no operation was done.

45. **Occipito-Posterior Presentations.**—When seen and diagnosed early, before the membranes are ruptured, Hardie considers rotation by external manipulation an ideal method. When the head has entered the brim, the membranes being entire, the patient must be placed in the most favorable circumstances for natural rotation. When the occiput is to the right, the patient should lie on the right side, and *vice versa;* nothing further should be done until labor is well advanced in the second stage. As the part of the head that is lowest in the pelvis during labor is the part that tends to rotate toward the symphysis, in occipito-posterior presentations, if the posterior fontanelle is within easy reach, the chances are that the occiput will eventually rotate to the front; it is less likely to do so when the anterior fontanelle is the more accessible. The treatment then is to increase the flexion so that the sinciput may recede and the occiput occupy a lower plane in the pelvis. The patient lying on the side to which the occiput is directed, one or two fingers are pressed steadily on the sinciput upward and slightly backward and with an inclination to one side or the other as the case may be, with a view to flexing and rotating the head. This should be done between the pains, the pressure of the sinciput being maintained during the uterine contraction to prevent retrocession. Should there be but little change after half an hour, he particularly condemns the use of forceps for combined contraction and rotation, and advocates the method of hand rotation, recommended by Hermann. In an advanced second stage with cessation of progress, the patient is placed on the left side. In a right occipito-posterior presentation, the right hand, back upward, is introduced into the vagina, the fingers passing along the upper surface of the head, nearer the sinciput than the occiput, the thumb being placed over the opposite or lower temple, and the head is gripped with the whole hand, flexed and rotated, so as to occupy the left oblique diameter with the occiput in front. The hand, in its course, passes under the symphysis pubis, and now lies to the left of the patient with the palm upward. Without removing the hand, the lower blade of the forceps is introduced, which keeps the head in position until the upper blade is also introduced. The whole procedure takes less than five minutes. In a left occipito-posterior presentation the right or left hand may be used as most convenient. If the right, it is slipped along the lower surface of the head, palm upward, and moves forward under the symphysis until, with complete rotation, the palmar surface looks downward. The upper blade of the forceps is then applied. If the left hand is used for rotation, it passes over the upper surface of the head with the palm downward, turns in front of the perineum to the patient's left, when it lies palmar surface upward, ready for the lower blade of the forceps. In the late second stage of labor, when the head is over the perineum, flexion and rotation can be accomplished in like manner, but it is unnecessary to pass the entire hand into the vagina. Hardie has used this method for some years and considers that for efficiency and safety no other treatment can compare with it.

Australasian Medical Gazette, Sydney.

August 20.

49 Classification of Disease and Causes of Death, from the Standpoint of the Statistician. G. H. Knibbs.
50 *Treatment of Occipito-posterior Presentations. D. Hardie.
51 Death After Operation. H. C. Hinder.
52 *Opening the Posterior Cul-de-Sac. W. A. Verco.
53 *Opsonic Treatment in Cases of Pulmonary Tuberculosis. C. Riessmann and H. Mayo.
54 Simultaneous Dislocation of Both Shoulders. M. J. Lyden.

50. See abstract No. 45.

52. **Opening of the Posterior Cul-de-Sac.**—Verco gives the following reasons for opening the posterior cul-de-sac: (1) For diagnostic purposes; (2) for acute inflammatory conditions and for acute infectious troubles; (3) for drainage of pus collections; (4) for removal of cysts and retrouterine and interligamentary growths; (5) replacement of malposed generative organs; (6) drainage after abdominal operations.

53. **Opsonic Treatment in Tuberculosis.**—Riessmann and Mayo conclude that on the whole in cases of moderately advanced consumption opsonic treatment is not helpful and may even be dangerous. They feel equally that in early cases it is useful and they intend to restrict its application in future to such cases. It is a laboratory test and it is quite impossible, they assert, for the general practitioner to acquire adequate proficiency through the investigation of an occasional case.

Annales de l'Institut Pasteur, Paris.

July, XXI, No. 7.

55 Anaphylaxis—Increasing Susceptibility to Successive Doses of Poison. (Anaphylaxie par la mytilo-congestine.) C. Richet.
56 Vaccination of Cattle Against Tuberculosis by the Digestive Tract. (Vacc. des bovidés contre la tub. par les voies dig.) A. Calmette and C. Guérin.
57 Transmission of Pathogenic Microbes by Intestinal Worms, Larvæ and Larvæ of Insects. (Rôle des helminthes, etc.) W. Weinberg.
58 Comparative Cytology of Spirochetes and Spirilla. Swellengrebel.

Presse Médicale, Paris.

September 14, XV, No. 73, pp. 577-584.

59 The Rôle Played by Mice in Propagation of Diplococcus and Colon Bacillus Infections. (Rôle joué par la souris dans la propagation des maladies à diplocoecliques et à colibacilles.) E. Palier.
60 Variations in Structure of Nerve Cells. R. Legendre.

Archiv f. klinische Chirurgie, Berlin.

LXXXIII, No. 4, pp. 905-1143.

61 Necrosis of Cartilage. (Knorpelnekrose.) A. Martina.
62 Retroperitoneal Abscess in Connection with Affections of Biliary Passages. (Retroperitonealer Abscess im Zusammenhang mit Erkrankungen der Gallenwege.) Sprengel.
63 Bone Cysts and Fibrous Ostitis. (Knochencysten u. Ostitis fibrosa von Recklinghausen's.). K. Gaugele.
64 Favorable Experiences with Iodoform Filling for Bone Cavities. (Füllung von Knochenhöhlen mit Iodoform-Wallrat-gemisch.) Kotzenberg.
65 Close Firearm Wounds of Bones. (Nahschussverletzungen der Knochen.) Herhold.
66 Arteries of Sigmoid Flexure in Relation to Operative Procedures. (Art. Gefässversorgung des S. romanum in ihrer Bedeutung für die op. Verlagerung desselben.) P. Manasse.
67 Plastic Treatment of Pseudarthrosis of the Leg. (Unterschenkelpseudoarthrosen.) H. Coenen.
68 Operative Treatment of Simple Fracture of Femur. (Subcutane Fracturen des Oberschenkels.) Fritz König.
69 Modification of External Urethrotomy in Treatment of Lacerations and Strictures of Male Urethra. (Behandlung der Zerreissungen und Strikturen der männlichen Harnröhre.) E. Bircher.
70 Cholecystectomie. F. Haasler.
71 *Early Meteorism After Abdominal Contusions. (Meteorismus nach Bauchcontusionen.) H. Heineke.
72 Gallstone Affections. (Gallensteinleiden.) O. Ehrhardt.

71. **Early Meteorism After Abdominal Contusions.**—Heineke is inclined to believe that meteorism appearing early after an abnormal contusion is a good omen, indicating that the injury is comparatively less serious than in the cases with rigidity of the abdominal walls. In the four cases in which he observed this early meteorism there was no hemorrhage or rupture in the digestive tract. The meteorism developed early and reached considerable dimensions in a few hours. He observed it also in a case of retroperitoneal phlegmon after perforation of a duodenal ulcer. He ascribes the meteorism in these cases to the direct action of the contusion or to extravasation of blood in the retroperitoneal connective tissue, compressing the nerve trunks or plexuses.

Berliner klinische Wochenschrift.

September 16, XLIV, No. 37, pp. 1163-1186.

73 Position of Paratyphoid Fever in the Typhoid Group. (Stellung des Paratyphus in der Typhusgruppe.) Jürgens.
74 *Does Saline Infusion Do Harm? (Gibt es Schädingungen durch Kochsalzinfusionen?) R. Rössle.
75 *Experiences with von Pirquet's Cutaneous Reaction to Tuberculin. (von Pirquet' sche Tuberkulinreaktion.) Engel and Bauer.
76 Multiple Tumors in Central Nervous System. O. Maas.
77 Epidemiologic Importance of Influenza Bacilli. J. Ruhemann.

74. **Does Saline Infusion Do Harm?**—Rössle asks this question to draw attention to the subject of possible injury from saline infusion. During the last year and a half he has noticed certain appearances in the heart of the cadaver from which he was able to diagnose preceding saline infusion. He is unable to say whether or not these findings indicate that the functioning of the heart during life was abnormally influenced, but, on the other hand, he has encountered a few cases in the clinic in which he is certain that the saline infusion had an injurious influence. The benefits of saline infusion have been demonstrated beyond question, experimentally and otherwise, for a number of conditions, but not for primary heart weakness, although it is currently used for this. He thinks that its application in this condition needs revision. The heart looks cloudy after saline infusion, but the microscope fails to reveal any indications of parenchymatous inflammation. This cloudy appearance—*Trübung*—is seen in a pure form after saline infusion in case of apoplexy, of ileus without peritonitis, or primary heart weakness and shock. Generally, the heart is rather dilated than contracted, and looks moist and friable. In case of a considerable infusion, the blood is exceptionally thin, the clots watery and a transparent yellow color. The contents of the intestines are always unusually fluid, but no other characteristic findings are encountered. He describes a case in which a hitherto healthy primipara had heart failure during the expulsive period, and in addition to other measures salt solution was injected. The child was artificially delivered and profuse diarrhea followed, the patient dying in collapse about an hour and a half after the second infusion. Autopsy revealed changes indicating intoxication with the salt solution, similar to those observed in animals after excessive saline infusions. The bladder was found empty, showing that the kidneys had been unable to secrete urine notwithstanding the infusion of two liters of salt solution within two hours. In another case a woman of 54 with cirrhosis of the liver, being operated on for a large ovarian cyst, was given copious saline infusion and the next day ascites developed for the first time; 2.5 liters of ascitic fluid were found in the abdominal cavity at autopsy, and the kidneys showed fresh parenchymatous inflammation. In conclusion, Rössle refers to Schaps' recent communication in regard to the disturbances that follow subcutaneous injection of even 5 c.c. of salt or sugar solution in infants.

75. **Cutaneous Reaction to Tuberculin.**—Engel and Bauer applied von Pirquet's cutaneous reaction test to forty-eight infants, the findings confirming the value of the test to a certain degree, but not to the extent that a positive response can be accepted as a certain indication of tuberculosis, at least in infants. The test was described in THE JOURNAL, July 27, page 331, and September 28, page 1119.

Centralblatt f. Chirurgie, Leipsic.

September 14, XXXIV, No. 37, pp 1081-1112.

78 *Another Case of Resection of Wall of Thorax with a Plastic Operation on the Exposed Lung. (Brustwandresektion mit Plastik.) R. Haecker.

78. **Resection of Wall of Thorax Over Exposed Lung.**—Haecker reports the fourth successful extensive resection of the chest wall in the Sauerbruch pneumatic cabinet, with atmospheric underpressure. The course of the operation was so smooth, although the lung was freely exposed, and the healing proceeded so rapidly, that all who witnessed the operation are convinced of the great future of the method.

Centralblatt f. Gynäkologie, Leipsic.

September 14, XXXI, No. 37, pp. 1105-1128.

79 Artery Clamp Left After Laparotomy Finds Its Way into Bladder. (Einwanderung einer Arterienklemme in die Blase.) W. Stoeckel.
80 Fatty Degeneration of Uterus During Pregnancy. (Fett. Degeneration der Gebärmutter bei der Schwangerschaft.) M. Ciulla.

Deutsche medizinische Wochenschrift, Berlin and Leipsic.

September 12, XXXIII, No. 37, pp. 1481-1520.

81 Treatment of Acne. K. Herxheimer.
82 Practical Technic for Large Hospitals for Detection of Pale Spirochete. (Nachweis der Sp. pall. im grossen Krankenhausbetrieb.) A. Arning and C. Klein.
83 *Wright's Opsonins in Acute Infectious Diseases. O. Boellke.
84 *Complications After Spinal Anesthesia. (Lumbalanästhesie.) F. Hesse.
85 Case of Habitual Abuse of Chloroform. J. Friedländer.
86 *Treatment of Chronic Uterine Catarrh. (Chron. Gebärmutterkatarrh.) F. Turan.
87 Construction and Principle of Double Syringe for Spinal Anesthesia. (Doppelspritze für die Spinalanalgesie.) Pochhammer.

83. **Opsonins in Acute Infectious Diseases.**—Boellke narrates his experiences in fourteen cases of pneumonia with dubious or grave prognosis, and in one of empyema of the pleura, in all of which he succeeded in raising the opsonic index by specific inoculation according to Wright's technic. The effect of the inoculation was most striking in a case of pneumococcus sepsis with malignant endocarditis, from which the patient recovered completely except for a mitral insufficiency, which causes no disturbances to date. Another remarkable case was one of empyema in the left pleura with pneumococci and streptococci in the aspirated pus. Six days after the first inoculation no bacteria could be discovered in the aspirated pus, and all symptoms had vanished by the twelfth day. He believes that this is the first case of the kind under bacteriologic control cured by internal measures.

84. **Complications After Spinal Anesthesia.**—Hesse proclaims that his experiences with spinal anesthesia justify him in warning against its use most decidedly, unless there are contraindications for general anesthesia and local anesthesia is not adequate for the proposed operation. He also declares that spinal anesthesia should not be used for operations above the umbilicus. Under other conditions, spinal anesthesia presents too many dangers for it to take the place of the older methods until some absolutely non-toxic anesthetic is discovered. In one of his cases, spinal anesthesia was followed by severe and persistent edema in the legs with local fever, incapacitating the patient, a man, for work to date, four months after the operation—evacuation of a perirectal abscess. Hesse regards these symptoms as due to injury of the nerves by the anesthetic (tropacocain—0.05 gm. diluted with 5 c.c. of the patient's cerebrospinal fluid). In another case, intense pain in the right arm and headache followed spinal anesthesia, the pain spreading to the other limbs and intercostal spaces. Two months after the operation the pains and other sensory disturbances, with exaggeration of the reflexes, persisted unmodified. A major abdominal operation had been performed on this patient a month before and there had been gallstone colic in the interval, so that the nervous system must have been much depressed. In future Hesse would never apply spinal anesthesia under these circumstances, and warns that the preceding history of each patient should be gone over carefully to discover contraindications of this kind. In his experience with spinal anesthesia in sixty cases he encountered, besides these two serious complications, one collapse from the mere introduction of the needle, and annoying by-effects in seven cases.

86. **Treatment of Chronic Catarrhal Endometritis.**—Turan describes his favorable experience with the application of suction hyperemia in treatment of uncomplicated catarrhal endometritis. He uses a curved sound, fenestrated half its length, with a projecting shoulder to keep it from entering too far. This is connected by a Y tube with an aspirating syringe and manometer, or he induces a vacuum in the manometer and uses this alone for the suction. A negative pressure of from 20 to 30 mm. mercury seemed to give the best results; the uterus tolerated this negative pressure for an hour and a half at least without unfavorable by-effects. He describes the technic with which this constant pressure was maintained, even when the patients were sitting up. He repeated the application daily for fifteen or twenty days. The results were eminently satisfactory in the old, chronic cases. Recent or acute inflammation contraindicates this treatment.

Münchener medizinische Wochenschrift.

September 10, LIV, No. 37, pp. 1809-1856.

88 Objective Measurement of Blood Pressure. Sphygmo-Turgography. (Objektive Blutdruckmessung.) E. Münzer.
89 Torsion of Appendices Epiploicæ. Krüger.
90 Two Cases of Hemorrhagic Internal Pachymeningitis. Jahrmärker.
91 Pathogenesis of Megacolon. (Hirschsprungsche Krankheit.) E. Neter.
92 Treatment of Bubo. (Neue Methode der Bubonenbehandlung.) G. Feigl.
93 Acquired Lymphangioma of Neck. (Erworbene Lymphangiome des Halses.) G. Dencks.
94 *Typhoid Simulating Febrile Jaundice, from Autoinfection. (Typhus abdominalis enstanden durch Autoinfektion von der Gallenblase her.) Grimme.
95 *Protection of Patient and Physician Against Injury from Roentgen and Radium Rays. (Schutz gegen Schädigung durch Röntgen- u. Radiumstrahlen.) F. Dessauer.
96 New Needle. (Neue Nadel.) A. Zeller.
97 Menthol Steam Apparatus for Treatment of Catarrh of Eustachian Tube. (Mentholdampfapparat.) L. Mader.

94. **Typhoid from Autoinfection.**—Grimme relates that an inmate of an institution developed typhoid fever deceptively simulating Weil's disease. The agglutination test on the fifth day of the febrile jaundice was positive at 1 to 800, and typhoid bacilli were found in blood and stools; the patient succumbed on the twelfth day. Infection from without seemed impossible under the circumstances, and autopsy revealed typhoid bacilli in the spleen and bile while the atrophied aspect of Peyer's patches indicated that the patient had previously had an attack of typhoid fever, although its nature had not then been recognized. In the few similar cases on record, the slight participation of the intestines in the disease process was noticeable. These facts also throw light on Weil's disease, suggesting that some of the cases reported as Weil's disease may in reality have been autoinfection with typhoid. In every case of febrile jaundice the agglutination test should be tried; even when there is no fever, the test should be applied when jaundice develops.

95. **Protection Against Damage from Roentgen and Radium Rays.**—Dessauer has made a special study of devices to prevent injury in *x*-ray work and states that the technic is now so perfected that the patient and physician can be permanently protected against injury if proper precautions are taken.

Therapie der Gegenwart, Berlin.

June, XLVIII, No. 6, pp. 241-288.

98 Treatment of Neurasthenia. W. Erb.
99 Treatment of Gastric Ulcer According to Senator. Schnütgen.
100 Dietetic and Medicinal Treatment of Diabetes. Lenné.
101 Constriction Hyperemia in Acute Articular Rheumatism. (Akut. Gelenkrheumatismus.) G. Klemperer.
102 Treatment of Disturbances in Character, etc. (Störungen des Gemütslebens.) Dammann.

July, No. 7, pp. 289-336.

103 Treatment of Nervous Impotence. C. Posner.
104 Venesection in General Practice. (Aderlass in der ärztlichen Praxis.) F. Mendel.
105 Constipation. (Verstopfung.) A. Lewandowski.
106 Treatment of Mercurial Stomatitis. P. Meissner.
107 Value of Calomel in Gallstone Affections. (Wert des Kalomels als Heilmittel der Gallensteinkrankheit.) A. Hecht.

August, No. 8, pp. 337-384.

108 *General Anesthesia with Part of the Circulation Artificially Cut Off. (Narkose bei künstlich verkleinertem Kreislauf.) R. Klapp.
109 *Gout: Nature and Treatment. (Gicht.) T. Brugsch and A. Schittenhelm.
110 *Artificially Increased Pressure of Cerebrospinal Fluid as Aid in Lumbar Puncture. (Hilfsmittel bei der Lumbalpunktion.) H. Curschmann.
111 *Prognosis of Pernicious Anemia. H. Hirschfeld.
112 Hypnosis in Treatment of Menstrual Disturbances. Theory of Neuroses. O. Kohnstamm.
113 Chronic Constipation. (Stuhlverstopfung.) S. Auerbach.

September, No. 9, pp. 385-432.

114 Membranous Enteritis. (Myxoneurosis Intestinalis. Rektoskopie.) C. A. Ewald.
115 *Surgical Treatment of Exophthalmic Goiter. (Chir. Behandlung des Morbus Basedowii.) V. Schmieden.
116 Action of Roentgen and Radium Rays on Trypanosoma lewisii. (Wirkung von Röntgen- u. Radiumstrahlen auf Tr. Lewisii.) W. Loewenthal and W. v. Rutkowski.
117 Testing Secretory Functioning of Stomach with Test Breakfast. (Prüfung der sekret. Funktion des Magens mittels Probefrühstück.) H. Winternitz.
118 Value of Suprarenal Extract in Obstetrics. (Suprarenin in der geburtshilfliche Therapie.) M. Neu.
119 Shall We Treat Gout with Hydrochloric Acid? (Sollen wir Gichtkranke mit Salzsäure behandeln?) G. Klemperer.
120 Abuse of Tobacco as Cause of Intermittent Limping. (Tabakmissbrauch als direkte Ursache des intermit. Hinkens.) A. Simon.

108. **General Anesthesia with Part of Circulation Cut Off.**—This communication from Bier's clinic relates successful experiences with general anesthesia induced after constriction has been applied to the roots of the limbs. This shuts off from the general circulation all the blood in these parts; it is assumed that the blood left in the trunk is all that is necessary for the vital purposes during the anesthesia. On removing the constriction the pure blood from these reservoirs pours into the general circulation and reduces the concentration of the anesthetic in the blood. Dawbarn has suggested "sequestration anemia" for brain and skull surgery, but Klapp goes beyond this, and induces both arterial and venous congestion with tighter constriction. He urges others to try the method, as his experience and experiments have been uniformly satisfactory.

109. **Hydrochloric Acid in Gout.**—This article presents a number of theoretical and experimentally obtained arguments in favor of the assumption that gout is essentially a disturbance in the fermentative apparatus of the metabolism of nuclein. The diet consequently should be free from purin but not predominantly vegetable, and from twenty to thirty drops of hydrochloric acid should be taken at each of the three meals.

110. **Improved Technic of Lumbar Puncture.**—Curschmann recommends application of ice to the extremities as a means of promoting the flow of cerebrospinal fluid when it flows sluggishly. He describes a case in which this measure aided the benefits of lumbar puncture, with recovery of the patient, a child with epidemic cerebrospinal meningitis.

111. **Prognosis of Pernicious Anemia.**—Hirschfeld believes that systematic administration of arsenic is able to render the prognosis of pernicious anemia much better. He has had a typical case under observation for thirteen years, the patient taking Fowler's solution now and then.

115. **Surgical Treatment of Exophthalmic Goiter.**—Schmieden relates experiences to justify his recommendation of an early operation in exophthalmic goiter, after a brief trial of internal medication. If this fails, he would advise operative treatment in every pronounced case. Kocher had a mortality of only 1 in his last 52 cases, while the benefit was marked in all the other patients.

Hospitalstidende, Copenhagen.

June 26, L, No. 26, pp. 661-684.

121 Geotropism in Anthrax Bacillus. V. Jensen.

July 3, No. 27, pp. 685-708.

122 *Pain in Adipose Tissue. (Adiposalgi.) E. E. Faber. Commenced in No. 26.
123 Suffocation from Lack of Oxygen. (Kvaelning ved Iltmangel.) A. Krogh.

July 10, No. 28, pp. 709-732.

124 *Removal of Bladder with Bilateral Lumbar Ureterostomy. (Totalexstirpation af Urinblæren, etc.) T. Rovsing.
125 Two Forms of Apparatus for Massage. J. C. Johansen.

July 17, No. 29, pp. 733-764.

126 Occurrence of Numerous Small Motile Micro-organisms in Human Saliva. (Mikroorganismer i Spyt.) V. Ellermann.

July 24, No. 30, pp. 745-788.

127 *Prognostic Importance of Albuminuric Retinitis. C. Tychsen.

August 14, No. 33, pp. 849-880.

128 Indications for Mastoid Operation by Schwartz' Method with Acute Suppuration in Middle Ear. (Indikationerne for Operation af Proc. mastoideus ved akut Mellemøresuppuration.) H. Mygind. Commenced in No. 32.

122. **Pain in Adipose Tissue.**—Faber describes eight cases of sciatica or articular affections in which there was marked tenderness and pain in the adipose tissue. The condition resembled that of adiposis dolorosa, although the other pains masked those from this source in the majority of cases. In examining a patient for sciatica, if the adipose tissue is tested it will sometimes be found painful and tender. As a rule, the physician does not investigate its condition, but contents himself with testing the ordinary sciatica points. Adiposalgia requires treatment, however, and massage with warm hydrotherapy and other means to stimulate the circulation at the periphery are the main reliance, supplemented by dieting to reduce the weight. When the weight is reduced by a few pounds the patients, as a rule, experience great relief. In case of very extensive adiposalgia with severe neurasthenic symptoms, treatment must be patient and persevering, but in most cases great improvement is soon realized in this frequently very annoying and painful affection.

124.—See abstract in THE JOURNAL, August 31, page 809.

127. **Importance for Prognosis of Albuminuric Retinitis.**—Tychsen has had 60 cases of albuminuric retinitis under observation and states that 51 of the patients died within a year after it was first noticed, that is, 85 per cent., while only 6.7 per cent. were alive at the end of the second year, 56 out of the 60 having died in the two years. Other observers have reported from 62 to 100 per cent. mortality within two years, the average—including Tychsen's cases—being 77 per cent. mortality in two years among 430 patients. The record shows a somewhat larger percentage of deaths among the male than the female patients. He tabulates the details of his 60 cases, with autopsy findings.

Nordiskt medicinskt Arkiv, Stockholm.

XL, Medical Section, No. 1. Last indexed, August 17, p. 632.

129 The Neuron Theory and Facts on which it is Based. (La doctrine du neurone.) Address on receiving Nobel prize. C. Golgi.
130 Structure and Connections of the Neurons. (Structure et connexions des neurones.) Address on receiving Nobel prize. S. Ramon y Cajal.
131 *Chlorosis as a Specific Disease and Iron as a Specific Remedy for It. (Chlorose als spez. Krankheit und Eisen als spez. Heilmittel.) F. W. Warfwinge.

XL, Surgical Section, No. 1. Last indexed, August 24, p. 724.

132 Method of Sterilizing Catgut and Silk by Heating in Oil. (Sterilisierung durch Erwärmung in Oel.) N. V. Akerblom.
133 *Experiences at Helsingfors with Abdominal Extirpation of Carcinomatous Uterus. (Total-exstirpation.) G. Heinricius.
134 *Surgical Treatment of Gastric Ulcer. (Ulcus ventriculi.) E. Key.
135 *Treatment of Exstrophy of Bladder. (Ectopia vesicae.) J. Berg.

131. **Chlorosis and Its Treatment.**—Examination of the blood in fifty cases of chlorosis showed a reduction of hemoglobin down to 15 per cent., while the proportion of red corpuscles did not vary much from normal. This disproportion between the number of corpuscles and the hemoglobin percentage is characteristic of chlorosis, and Warfwinge considers it an argument in favor of the assumption that chlorosis is a specific, essential affection. He ascribes the trouble to an inability on the part of the red corpuscles to take up the substances needed to produce hemoglobin, and shows that this inability is probably due to the inhibiting action of some toxin. Iron seems to have a catalyzing action on this toxin and thus checks its inhibiting action, after which the corpuscles are able to take up the substances needed to produce the hemoglobin. The effect of the iron is not felt unless it is given in a compound which gives the iron reaction with the ordinary tests. Large doses of iron are required, as a considerable proportion of the iron is not absorbed in the digestive tract, and the treatment should be continued for at least six weeks, or until the blood shows normal composition. He gives 15 Blaud pills or 1.5 gm. sulphate of iron (22.5 grains) daily, urging the patient to stay in bed for a time.

133. **Abdominal Hysterectomy for Cancer.**—Heinricius reports his experiences with 358 patients with uterine cancer, from 1862 to 1906. This number was in a proportion of 4.3 per cent. to his total gynecologic material. He describes the 44 cases in which he performed radical abdominal hysterectomy. Recurrence was observed in 20 cases and 7 of the patients died soon after the operation; 6 have been in good health for more than a year. The recurrence was generally in the connective tissue surrounding the uterus.

134. **Operative Treatment of Gastric Ulcer.**—Key reviews 177 cases of gastric ulcer and its consequences, treated by operative intervention by Berg or Akerman, and tabulates the details, with later histories of a number of the patients.

135. **Treatment of Exstrophy of the Bladder.**—Berg regards isolated closure of the urinary passages as the ideal treatment for exstrophy of the bladder, and suggests a technic which allows this to be done on young and old. He has followed this technic in five cases, which he describes in detail, the results more than answering his expectations. In the first operation the distal end of an isolated loop of small intestine is implanted in the sigmoid flexure. The abdomen is then closed, and two or three weeks later he resects the bladder wall, leaving an elliptical piece containing the openings into the ureters. This elliptical piece is then sutured into the side of the isolated loop of small intestine, previously implanted in the sigmoid flexure. In a third operation, a pedunculated skin flap is transplanted to cover the granulating wound. One patient, a man of 42, is delighted with the result, which was also good in a boy of 6.

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June, LXVIII, No. 6. Last indexed, August 3, p. 450.

136 Ship Beriberi. (Skibs-beri-beri.) A. Holst.
137 Puerperal Mortality in Norway. (Dødeligheden paa barselseng.) Drejer.
138 Successful Operative Treatment in Two Cases of Lung Abscess. J. Roll.
139 *Measurement of the Vessels and Arteriosclerosis. (Karmaalinger og arteriosklerose.) O. Scheel.

July, No. 7.

140 Causes of Beriberi. (Om beri-beri.) A. Holst and T. Frolich.
141 Paranoiac and Paranoiform Conditions. (Psykiatrens Grundtræk.) R. Vogt.

August.

142 Reliability of the Proteolytic Ferment Test to Differentiate Pus. (Puspreaktion.) S. Widerøe.
143 *Study of Prevalence of Cancer at Different Ages in Relation to Its Etiology. (Cancerens fordeling paa aldersklasserne.) K. Andersen.

139. **Measurement of Blood Vessels and Arteriosclerosis.**—Scheel has measured the diameter and length of the aorta and pulmonary arteries in 500 cadavers and classifies the findings from various points of view, especially according to age. The regular increase in the diameter of these vessels and in their length with increasing years testifies to the decreasing elasticity of their walls. This constantly diminishing elasticity and the widening of the vessels tends to favor the production of arteriosclerosis. He declares that the whole question of the etiology of arteriosclerosis needs revision. An abnormally wide aorta should not be passed over as normal because no arteriosclerotic patches are evident.

143. **Cause of Prevalence of Cancer at Various Ages.**—Andersen has been studying from various points of view the record of 12,179 cases of cancer reported in the collective inquiry in Germany, Oct. 15, 1900. He discusses why the first 25 to 30 years of life are practically cancer-free and why the number of cases shows such an increase between 40 and 50, suggesting that the functioning of the thymus gland and its retrogression are responsible for this difference in respect to the various ages. The only fact we know with certainty about the thymus, he adds, is that it has some influence on the progress of ossification and the growth of the body as a whole, as Basch has recently demonstrated.

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July 28, XXVII, No. 90, pp. 939-944. Last indexed Sept. 1½, p. 978.

144 *Katzenstein's Test of the Force of the Heart Action. (Studio dell' attivita cardiaca.) E. Morandi.
145 Operative Treatment of Generalized Purulent Peritonitis from Perforation. L. Fioravanti.
146 Twelve Cases of Epidemic Cerebrospinal Meningitis. G. Tani.

August 4, No. 93, pp. 962-976.

147 *Lumbar Puncture in Diagnosis and Treatment of Epidemic Cerebrospinal Meningitis. A. Calabresi and L. Clerc.
148 *Radium Therapy of Peripheral Facial Paralysis and Trigeminal Neuralgia. A. Bongiovanni.
149 Pathogenesis of Movable Kidney. (Patogenesi del rene mobile.) G. Salmoni.
150 Prophylaxis of Uterine Cancer. (Profilassi del cancro dell' utero.) L. M. Bossi.
151 Ventral Hernia. (Eventramenti.) I. Bruchi.
152 Indican Reaction in Urine. (Ricerca dell' indossilsolfato potassico nelle urine.) F. F. Lelli.
153 *Automobiling and Physical Therapy. G. Ghirelli.
154 Neurasthenia and the Gouty Diathesis. (Neurastenia e diatesi gottosa.) C. Amistani.

August 11, No. 96, pp. 995-1010.

155 Pharmacologic Study of Phenolphthalein. P. Tumminia.
156 *Fermentation Test of Stools According to A. Schmidt. (Fermentescibilita delle fecce.) G. Bazzicalupo.
157 *Indicanuria in Cerebrospinal Meningitis. R. E. Campagna.
158 *Sheet Gelatin for Occlusive Dressings. (Adatto materiale per medicatura occlusiva.) S. Gucciardello.

August 15, No. 98, pp. 1019-1026.

159 Antiserums for the Biologic Blood Test. (Antisieri per la diagnosi specifica del sangue.) O. Modica.
160 Advantage of Restriction of Fluids in Diet in Heart and Kidney Disease. (Dieta secca nei cardiopatici in iscompenso e nei nefritici.) A. Crosa and G. Paganelli.

August 18, No. 99, pp. 1027-1042.

161 *Alcohol from the Standpoint of the Genoa Clinic. S. Mircoli.
162 Effect of High-Frequency Currents on Urinary Secretion in Diabetes. (Effetti delle correnti ad alta frequenza sull. andamento della secrezione orinaria nel diabete.) L. Siciliano.

163 *Autoserotherapy. (Autosieroterapia immediata e mediata.) M. V. Carletti.
164 Dermoid Cyst in Left Brow of Three Sisters. (Casi familiari di ciste dermoide.) A. Barachialli.
165 Electric Light Baths. (Applicazione dei bagni di luce elettrica in terapia.) S. Licciardi.

August 25, No. 102, pp. 1059-1074.

166 Reflexes in Certain Acute Infections. (Modo di comportarsi dei riflessi in alcune infezioni acute.) S. Livierato.
167 Value of Volhard's Test for Pepsin and Trypsin in the Stomach. (Metodo di Volhard.) C. Gennari.
168 *Influence of Thyroid Functioning on Lime Metabolism. (Una funzione della glandola tiriode non ancora ben studiata.) T. Silvestri and C. Tosatti.

September 1, No. 105, pp. 1091-1106.

169 Complication of Leukemia with Tuberculosis. (Complicanza della leucemia con infezione tubercolare.) G. Guyot.
170 Study of Immunizing Action of Brain Substance of Various Animals on Rabies. O. Fermi.
171 Hygienic and Curative Action of Baths. (Bagni.) C. Colombo.

September 8, No. 108, pp. 1123-1138.

172 Movement of Diaphragm in Pneumothorax. (Diaframma nel pneumotorace.) G. A. Pari.
173 Opsonic Index of Blood Serum in Tuberculosis. (Potere opsonico del siero de sangue di soggetti tubercolosi.) G. Romanelli.
174 Organic and Mineral Iodin in Treatment. (Terapia iodica organo-minerale.) L. Polidoro.
175 Colloidal Platinum in Treatment of Pulmonary Tuberculosis. G. Manfrini.

144. **Katzenstein's Method of Testing Force of the Heart Action.**—Morandi has experimented with Katzenstein's method of cutting-off portions of the arterial circulation to study the effects on the dynamic power of the cardiac muscle. He concludes that it is a method of physical examination capable of rendering valuable service, and that it should not be condemned as lacking in scientific accuracy and value. It was described in THE JOURNAL, July 9, 1904, page 159.

147. **Lumbar Puncture for the Diagnosis and Treatment of Cerebrospinal Meningitis.**—Calabresi and Clere find that in cases of cerebrospinal meningitis in which the meningococcus is not demonstrable, the diagnosis can be aided by noting in the cerebrospinal fluid—obtained by lumbar puncture during the regression of the morbid process—a progressive increase of the lymphocytes together with a progressive diminution of the polynuclear leucocytes. The therapeutic value of lumbar puncture is shown in the relief of symptoms and, as they believe, also in the hastening of recovery in a case reported.

148. **Radium Therapy in Facial Paralysis and Facial Neuralgia.**—Bongiovanni has employed radium applications in treatment of facial paralysis and facial neuralgia. The applications were made over the nerves involved, with a very thin aluminum screen between the radium and the skin, and for periods varying from less than one-half hour to two hours, the exposures in the paralytic cases being rather the longer. The distance from the skin varied from 5 to 50 mm. Improvement was rapid in all the cases, and no inconveniences were experienced. He concludes that for the treatment of peripheral facial paralysis and trigeminal neuralgia, radium employed with due precautions, is a powerful but safe and painless remedy. It is more easily used than the Roentgen rays, does not require a special knowledge of electricity or special attention to the nature and strength of the current or to the hygrometric condition of the atmosphere, etc., as is the case with the *x*-rays. Its great disadvantage is the expense of the radium.

153. **The Therapeutic Effect of the Automobile.**—According to Ghirelli, the automobile affords a useful adjunct to physical therapy. He has treated sixty-three patients by this means for various ailments—including neurasthenia of various types and gastric disorders—in forty-six with complete success and with improvement in eleven. In most of these cases he used a modified form of motor cycle. In some cases, however, particularly for women, the more expensive automobile carriage is better. The beneficial effect and action are, he holds, comparable to those of the Zander vibratory apparatus.

156. **Fermentation Test of Feces According to A. Schmidt.**—Bazzicalupo has modified Schmidt's technic somewhat, eliminating some of its drawbacks. He centrifugalizes the stool substance in a graduated test tube, diluting it to one-tenth, and using Einhorn's fermentation tube to determine the amount of gas produced. He gives the details of a number of cases in which the test was applied under various conditions.

157. **Indicanuria in Epidemic Cerebrospinal Meningitis.**—Campagna relates fourteen case histories to show the constant indicanuria in this disease.

158. **Sheet Gelatin for Dressings.**—Gucciardello incises an abscess and after evacuating the pus applies a little cotton moistened in a solution of corrosive sublimate, and then lays over all a disc cut from a sheet of gelatin, making it large enough to project over the sound skin. The gelatin is wet and he moulds it to the surface of the skin to which it adheres firmly as it dries. He has found this the simplest and best dressing to apply on points where it is difficult to keep an ordinary dressing in place. As a covering for skin flaps he applies first a layer of sterilized paraffin, then a thin layer of cotton, and then over all the sheet of gelatin. The transparence of the gelatin dressing is an advantage. He has found this covering useful to protect the sound eye in case of gonorrheal conjunctivitis. He passes the sheet of gelatin through a flame, wipes it with alcohol, and then moistens it in a 2 per thousand solution of corrosive sublimate.

161. **Alcohol from the Standpoint of Maragliano's Clinic.**—Mircoli reviews the clinical and experimental experiences at Genoa, which he thinks demonstrate that alcohol in certain amounts and at certain times increases the antitoxic power of the blood, promoting or stimulating the processes that make for immunity. Maragliano has noticed that in families decimated by tuberculosis those individuals generally escape who are in the habit of taking alcohol moderately. In his clinic he orders for tuberculous patients 50 gm. of cognac to each liter of milk, that is, about a tablespoonful to each glass of milk.

163. **Autoserotherapy.**—Carletti gives a detailed history of a dozen cases of pleurisy treated by reinjection of some of the effusion obtained by puncture. The patients treated by Gilbert's technic, that is, immediate reinjection of the fluid, did not show so much benefit as those treated by Carletti's modification. He aspirates the fluid and then sets it aside, at blood temperature, to allow autolysis to proceed, and then reinjects it, fractioned, later. The results seemed to be better with this technic, but were not very favorable even with this. The benefit can not be compared with that obtained from aspiration and injection of oxygen, which Lucatello has been practicing for years with great success.

168. **Thyroid Gland as Regulator of Lime Metabolism.**—Silvestri has observed cases of rachitis in which defective thyroid functioning was certainly a concomitant factor. He also calls attention to the efficacy of thyroid treatment in various forms of hemophilia, in hematuria of prostatic origin, and in other pathologic conditions in which the calcium salts display marked efficacy. He presents evidence to sustain his assumption that the thyroid favors the development of callus, consolidation of fractures and the growth of bone in general. He tabulates the findings in regard to the metabolism of lime in a number of persons taking thyroid treatment for various affections. These findings show conclusively, he thinks, the calcifying action of the thyroid. Thyroid treatment favors retention and assimilation of lime, and the liver shares in this task.

Books Received

Acknowledgment of all books received will be made in this column and this will be deemed by us a full equivalent to those sending them. A selection from these volumes will be made for review, as dictated by their merits, or in the interest of our readers.

TEXT-BOOK OF DISEASES OF THE SKIN. By Arthur Van Harlingen, Ph.B. (Yale) M.D., Emeritus Professor of Dermatology in the Philadelphia Polyclinic. Fourth Edition, Thoroughly Revised and Rearranged. Illustrated. Cloth. Pp. 482. Price, $3.00. Philadelphia: P. Blakiston's Son & Co., 1907.

THE CHEMISTRY OF COMMERCE. A Simple Interpretation of Some New Chemistry in Its Relation to Modern Industry. By Robert Kennedy Duncan, Professor of Industrial Chemistry at the University of Kansas. Illustrated. Cloth. Pp. 263. Price, $2.00. New York and London: Harper & Bros., 1907.

REGISTER OF FOODS. A Graphic Study of Eatables by the Comparison of the Percentages of Their Principal Chemical Elements, Designed for Students of Dietetics. Copyright by P. W. Goldsbury, M.D. Cardboard. Boston: Whitcomb and Barrows.